

**MUNICIPAL INFRASTRUCTURE FINANCING
TECHNICAL ASSISTANCE PROGRAM
FOR CROATIA**

WORKSHOP MANUAL

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The Urban Institute
2100 M Street, NW
Washington, DC 20037

UI Project 06610-304
June 1996

Prepared for

East European Regional Housing Sector Assistance Project
Project 180-0034
U.S. Agency for International Development, ENI/EEUD/UDH
Contract No. EPE-0034-C-00-5110-00, RFS No. 304

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TOOLS FOR GENERATING IDEAS

BRAINSTORMING

Brainstorming is a simple tool for generating ideas for solving problems and for creating new products and services. In a brainstorming session, the participants share their ideas as they think of them, so that each person has the opportunity to build on the ideas of others.

Four Key Rules

The discipline of brainstorming is maintained by four basic rules. However, the informality of the process generates an atmosphere of freedom. These rules are:

- no evaluation (no initial judgments of ideas)
- encourage wild ideas
- hitchhike -- build on the ideas of others
- strive for quantity

How to Brainstorm

The group leader presents the problem for which ideas are sought. The wording should encourage specific, tangible ideas, not abstract ideas or opinions. The leader makes sure the participants understand the problem, the objective of the brainstorming session and the process to be followed.

There are three main methods of brainstorming. Many others have been designed, but are usually variations or combinations of these:

1. Free Wheeling
2. Round Robin
3. Slip Method

Free Wheeling

Group members call out their ideas spontaneously

The scribe records the ideas as they are suggested

Round Robin

The leader or scribe asks each member, in turn, for an idea.

Members may pass on any round.

The session continues until all members have passed

during the round.

Ideas are recorded as in free wheeling.

Slip Method

The leader asks the members to write down their ideas on small slips of paper or index cards.

The ideas are then collected and organized.

DEFINING AND ANALYZING A TASK

Force Field Analysis

The Force Field Analysis is a way of helping the team think through reasons why it may be difficult to make a change or to achieve a goal, and what to do about it. It can be done by the whole group or by a subgroup such as a work team.

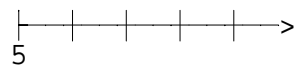
- . Describe the desired change or goal. Write the change description at the top of a flip chart.
2. Divide the rest of the flip chart page into two columns. Label one column driving forces and the other column restraining forces.
3. Explain that driving forces are the anticipated benefits and advantages of the change, plus any other reasons to make the change. Restraining forces are the shortcomings and disadvantages of the change, difficulties in making the change, and anything inhibiting the change.
4. Brainstorm to identify driving and restraining forces. Record them in the appropriate column of the flip chart.
5. Judge the intensity of the forces. Use a 1-5 scale, with 1 being a weak force and 5 being a strong force.
6. Develop strategies for increasing the driving forces and decreasing the restraining forces.

SAMPLE

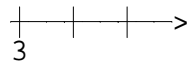
Problem Statement:
Successfully changing how we
respond to customers

Driving Forces

Our supervisor wants us to do this

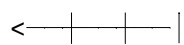


Customers need our service faster



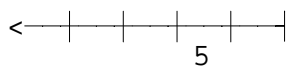
Restraining Forces

It is expensive



3

It takes time



5

II. Orientation to Local Government in the United States

A. The Federal System: What is it, and where does local government fit?

According to the principles of federalism, powers and responsibilities are divided between the central government on the one hand, and state and local governments on the other. In the U.S., strongly influenced by the events surrounding colonialism and the War of Independence from Great Britain, this dual system evolved out of a desire to simultaneously preserve national unity, regional independence and diversity, and individual freedoms.

The strength of these major political units relative to each other changes continuously over time, but the basic structure remains the same. These levels of government can be defined as follows.

Federal (National) Government

The national government gets its authority from the U.S. Constitution and its amendments, which are based on two fundamental principles:

- ▶ popular sovereignty, the doctrine that government is created by and subject to the will of the people; and
- ▶ limited government, in which the government has only the authority and responsibility specifically delegated to it.

The Constitution divides responsibilities among three branches of government: Legislative, Executive, and Judicial. (Their functions and powers are shown in Exhibit 1.) For example, in the Legislative Branch, citizens from each state elect representatives to Congress to make laws affecting the whole country.

Exhibit 1: Branches and Powers of the U.S. Federal Government

Branch of government	Body in whom powers are invested	Primary responsibilities
Legislative	Congress (Senate and House of Representatives)	Make laws Levy and collect taxes Make financial appropriations
Executive	President and Vice President	Implement laws Appoint officials Serve as Commander-in-Chief of armed forces Exercise some power over legislation Act as diplomatic representative
Judicial	Supreme Court and lower courts established by Congress	Try cases Assign sentences Determine rights according to law or equity

To keep any one branch of the central government from becoming too powerful, the Constitution incorporates a system of checks and balances. These are illustrated in Exhibit 2.

Federal revenues mostly come from taxes of various types. Exhibit 3a shows the major sources of all federal revenues; Exhibit 3b breaks down the category of "Taxes - 53%" into more specific types of national taxes.

The federal government uses its income to pay for such items as national defense, agriculture programs, environmental regulation and protection, public health services, interstate highway construction, and federal prisons, among many others. Exhibit 4 illustrates expenditure categories in a recent U.S. federal budget.

State Government

State governments often are structured to mirror the organization of the national government. For example, the states also have a constitution specifying duties and authority, and clarifying the separation of powers. The state Executive Branch consists of a governor and lieutenant governor. In the Legislative Branch, the state legislature also called the General Assembly has a Senate and House of Representatives, whose members are elected by citizens according to the county or voting district in which they live. The legislature enacts laws establishing statewide programs, assesses and collects state taxes, and decides how to appropriate revenues. The state Judicial Branch consists of a state-operated General Court of Justice, with three divisions: Appellate Division (consists of the state Supreme Court and Court of Appeals), the Superior Court Division (which handles most trials involving a jury), and the District Court Division (handles civil actions and misdemeanors).

In practice, the states are responsible for central administration of statewide public services such as highways, prisons, courts, mental hospitals, and (in some states) schools. Various departments and agencies set standards and distribute funds allocated through the state budget. In North Carolina, some of these departments are:

- | | |
|--|-----------------------------|
| ▶ Agriculture | ▶ Insurance |
| ▶ Commerce | ▶ Maternal and Child Health |
| ▶ Corrections (prisons) | ▶ Public Instruction |
| ▶ Environment, Health,
and Natural
Resources | ▶ (education) |
| | ▶ Solid Waste Management |
| | ▶ Transportation. |

The states may receive some federal funds for their programs, and they must comply with minimum federal laws and standards, such as those governing the environment, worker safety, or public health. Each state is free to organize its own government, subject only to the basic guarantees of liberty provided by the federal Constitution. States are assumed to have all authority not expressly given to the national government.

The states' most important own sources of revenue are personal and corporate income taxes, sales taxes, and various other fees and taxes (see Exhibit 5, which also illustrates expenditures).

Local Government (counties and municipalities)

Each of the 50 states has divided responsibility for all governmental activities under its control between the state government and its local units of government: counties, townships, cities and towns, special districts, and authorities. The pattern of responsibility may differ from state to state, but the state and one or more units of local government are responsible for the major governmental activities required in every community.

By far the two main types of local government in the U.S. are the county and the municipality.

Counties are geographic subdivisions of the state (Exhibit 6 is a map of North Carolina and its 100 counties). Historically, they were also seen as subdivisions of state government, created to help administer state functions. Thus, county officials provided courts, registered deeds, cared for the poor, maintained roads, and sometimes collected state taxes.

Municipalities, on the other hand, are separately incorporated urban areas. They were originally established at the request of urban residents, and concentrated on providing property-related urban services such as police and fire protection, water and sewer services, street maintenance, electricity, and so on.

In recent years this picture has changed some, primarily because much residential growth has occurred outside municipal boundaries. County governments have been forced to provide municipal services such as water and sewer, fire protection, and recreation. Moreover, the notion of what governmental services are needed by all state residents has broadened, meaning that some municipal functions hospitals, libraries, solid waste disposal have become increasingly the responsibility of county governments.

Local governments receive their authority from the state government. For example, in North Carolina, both cities and counties gain their existence and their authority to act to provide services, to regulate activities, and to raise revenues from the state General Assembly.

1. County Governance

The board of county commissioners is the general governing body of the county. Boards of commissioners vary in size, term of office, and manner of election. For most counties, the structure of the board of commissioners is prescribed by one or more acts of the General Assembly that apply only to that county. All county commissioners are elected by the people in partisan elections; the chairman of the board of commissioners usually is selected by the board itself rather than by the voters. Most of North Carolina's counties also employ a manager to supervise all county departments as the board's chief administrative officer.

Exhibit 7 shows the typical organization of a county government.

Exhibit 6: Map of North Carolina and Its 100 Counties

2. City Governance

A city's governing board, or city council, holds ultimate authority to act for the city. It decides what services the city will provide and at what level. It establishes the city's fiscal policy by adopting the annual budget, and it levies the city's taxes. It adopts the city's ordinances and makes decisions on various administrative matters. The structure of each city's governing board is normally set out in the city's charter, a local act of the General Assembly that serves as a sort of "constitution" for the city.

The office of mayor is viewed as the chief political office in city government. Although many large cities in the U.S. have a "strong mayor" system under which the mayor is charged with actually running city government, this arrangement is not found in North Carolina's cities. Instead, most larger cities have a council-manager form of government, under which the governing board appoints a city manager and charges that person with appointing all other employees and operating the city, under the board's supervision. In these cities, the mayor's formal powers are likely to be presiding at city council meetings, voting to break ties at the meetings (and at no other time), signing documents on behalf of the city, and serving as the city's official representative at ceremonial functions. A professional manager is too expensive for smaller towns, so the great majority of the state's small towns operate under the mayor-council plan, under which all department heads report directly to the council; the mayor may serve as de facto chief administrator.

Exhibit 8 shows several types of municipal governing structures and the characteristics of cities that are likely to adopt them.

Exhibit 9 illustrates how a city government might be organized.

Exhibit 8: Patterns of Government in U.S. Structured Cities

	Council/ Manager	Strong Mayor	Weak Mayor	Commission	Special Districts	General Purpose	School
Number of cities under 25,000 pop. with this type of government	Many	Few	Most	Few	Many	Many	
Number of cities over 25,000 with this type of government	Most	Many	Few	Few	Many	Many	
Who makes policy (approves budget, enacts laws, monitors quality of services)	Council of 5-15 members, with staggered terms, elected at large	Council of 12-60 members, uniform terms, elected by district; mayor heads council	Council of 12-60 members, uniform terms, elected by district; separate head of council	Council of 5 members, elected at large	Board appointed by city council; some are appointed by governor of state	Board, most elected, a few appointed by mayor	
Who handles administration (carries out policy, suggests changes in policy)	Appointed manager with authority to appoint/remove employees	Mayor has authority to appoint/remove employees	Mayor has authority to appoint/remove employees, except some officials are elected or appointed by council	Each council member is responsible for one department	Executive appointed by board	Superintendent appointed by board	

Type of city most likely to have this form of government	Cities interest ed in high cost- benefit ratio	Largest cities (over 1.5 million people); political advantage is primary concern	Either very large or very small cities; political advantage is primary concern	Cities that have suffered a catastroph he and require merging of policy and administr ation	Cities that have a specific problem either a part of a city or more than one city	All cities (require d by state law)
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B. Functions of County and Municipal Governments: What are responsibilities and expenditures?

Functions and Expenditures of County Government

Counties are mandated to provide some services, other services are optional, and still others may be shared with municipal governments. Exhibit 10 shows some services that typically are provided only by county governments.

Exhibit 10: County Government Responsibilities

Area of Responsibility	Officials and Services	
Law enforcement:	Sheriff serves as county's chief law enforcement officer and maintains the county jail	
Record-keeping:	Office of the Register of Deeds maintains legal records of all property transactions and of marriages, births, and deaths	
Courts:	County provides courtrooms (the state pays salaries and operating expenses)	
Education:	School board or other authority operates public schools and community colleges (in NC, the education system is operated as a joint undertaking by the state, the local board of education, and the board of county commissioners)	
Public health services:	Health departments offer:	
	Immunizations	Health education
	Sanitation and inspections	Clinics
	Public health nursing and dentistry	Rodent and insect control
	School health	Vital statistics
	Nutrition	Emergency medical services

Mental health:	Mental health board oversees services related to mental health, mental retardation, and substance abuse (jointly with the state)
Social services:	Social services board assists people with low incomes and other social problems: payments to needy families, food assistance, protective services, foster care and adoptions, family planning, assistance with heating bills
Agriculture:	Agricultural extension service offers programs in: agricultural production, marketing, education; home economics; community resource development
Elections:	Board of Elections registers voters according to state law; administers all federal, state, and local elections

In addition to these mandated services, many counties elect to provide other programs and services for county residents. As noted earlier, some of these service areas overlap those covered by municipalities. For example, counties may participate financially in the development of water and sewer systems in urban fringe areas to ensure that later development occurs in an orderly fashion. Most counties also provide solid waste collection and disposal services, either directly or through regulated private companies. A county may also contract with volunteer fire organizations to provide protection to areas outside cities; finance the construction and maintenance of a county hospital; operate or regulate an ambulance and rescue service; or operate a parks and recreation system.

Some other facilities that counties may oversee or share with municipalities are airports, libraries, art galleries and museums, armories, and animal shelters.

Exhibit 11 illustrates how North Carolina county expenditures were allocated in 1992-93.

Functions and Expenditures of Municipal Government

Municipalities generally have a great deal of discretion about which functions they provide. In North Carolina, there is no law that requires a municipality to perform any function whatsoever. In this respect, cities do differ from counties, which are required to perform or provide local financing of several functions particularly health, education, and welfare. In general, however, the larger the city, the more services are provided by the municipal government. Exhibit 12 shows the main functions provided by municipal governments in the United States, and Exhibit 13 illustrates how North Carolina cities apportioned spending on functions such as these in 1991-92.

**Exhibit 12: Municipal
Government
Responsibilities**

Public safety:	Police services Fire protection
Public enterprises:	Water and sewer services Electricity and gas services Solid waste collection and disposal Public transportation Airports Parking Cemeteries Auditoriums, coliseums, and convention centers
Streets:	Street and sidewalk maintenance Street lighting Traffic control
Transportation:	Buses Other public transit
Leisure and culture:	Parks and recreation Libraries Cultural affairs (museums, festivals, etc.)
Housing and development:	Public housing Economic development Emergency shelters Shelters for the homeless
Regulation:	Land use regulation Residential subdivision controls Building code regulation Historic preservation
Education:	Primary schools Secondary schools
Health:	Hospitals Public health services
Welfare:	Public assistance

Rationale for the Division of Responsibilities Among Federal, State, and Local Governments

As many of these examples indicate, the delineation of responsibilities among these units of government is not rigid. States provide some funding and establish policies for many programs (e.g., education, public health) that are implemented at the local level. Local governments offer public assistance for the needy, often within programs sponsored by the state or federal government. The federal government supplies matching funds for local urban renewal projects or state highway construction. Further, public outcry for either less or more governmental intervention changes the roles of these political units over time.

Nevertheless, despite overlap in many areas, the rationale behind the broad division of responsibilities remains the same. The federal government is granted responsibility for securing individual rights and liberties that the Constitution guarantees to all Americans (e.g., voting rights, equal employment opportunity, legal services); defending U.S. interests and conducting foreign relations in the world community; and promoting economic growth and regulating interstate commerce (the stabilization function). States oversee programs and expenditures that affect all citizens of the state or should be distributed equitably statewide, such as roads and highways, public health programs, rules governing public schools, and environmental regulations. Local governments are assumed to know their own residents' needs the best, and therefore to be most suited to providing direct services, such as police and fire protection, street and sidewalk maintenance, recreational facilities, and clinics.

C. Financing: How are local governments financed?

Local governments have some discretion in which revenue sources to use and how much reliance to place on each. Exhibit 14 shows the sources and proportions of revenues for local governments in North Carolina. Nationally, the single largest source directly under local control is the property tax. Transfers from state government, which include shared taxes as well as grants, total about 30% of local government budgets. Current charges, which include license fees, direct user charges, and charges for utility services, account for about 13% combined.

Because many local capital projects require large investments beyond what is available from these current revenue sources (more about current and capital budgets appears in Section IV), local governments in the U.S. can borrow to pay for them. Virtually all money borrowed for capital projects comes directly from the private capital market through the issuance of bonds. Although

they are called "municipal bonds," they may also be issued by county governments, school districts, or special-purpose authorities (see Section III.C).

The sections that follow explain more about three revenue sources in particular: property and sales taxes; user fees; and municipal bonds.

Local Taxes

1. Property Taxes

Property taxes supply a large portion of revenues for local governments. Not only is this tax the primary source of educational financing (generally at least 80% of school district own revenues), but in 1991-92 it also raised approximately 22% of state and local own-source revenues, and 48% of local own-source revenues.

The property tax is levied against real property (land, buildings), personal property (business inventories and equipment, automobiles), and the property of public service companies (electric power, telephone, railroad, airline, and certain other companies).

Although obviously the procedures, personnel, and record systems for this type of taxation are much more complicated than can be thoroughly explained here, the basic process is as follows.

- ▶ The local government determines the amount of tax revenue to be raised, called the levy.
- ▶ Tax assessors develop a fair procedure for estimating the value of all property. The assessment can be based on construction or replacement costs; on the value of the property if it were available on the local market; or, for income-producing real property (apartments, forest land, retail property), on the resulting net income. The sum of the property values for the jurisdiction minus any exempted property is the tax base.
- ▶ The formula for setting the tax rate is determined based on the amount of revenues needed. Reduced to its most simplistic formula: tax revenue = tax rate tax base.
- ▶ Property owners are notified of their tax liability and are given a specified time in which to pay. Most jurisdictions that levy property taxes offer certain exemptions (e.g., for the elderly or low-income families); they also allow taxpayers to appeal an assessment decision if the rate seems unjustified.

- ▶ If the tax is not paid, particularly for an extended period, the usual enforcement procedure is to sell the property and pay the tax from the proceeds of the sale.
- ▶ The government periodically reassesses real property, usually around every 7 to 8 years.

The property tax is useful because of the large amounts of revenue it can raise, and because of the autonomy it affords local governments in evaluating and meeting revenue needs. Critics argue, however, that the tax is an unreliable measure of an individual's or a household's wealth, and that these tax revenues often finance services whose benefits are only casually associated with property ownership.

2. Sales Taxes

A sales tax is an add-on to the economic cost of a good (food, appliances, office supplies, etc.) or a service (e.g., accounting, management consulting, legal counsel). State and local sales taxes come in two versions:

- ▶ General sales taxes are levied on sales of goods and services at the retail level. Thus, any consumer who makes a purchase pays an additional percentage to the seller to cover the sales tax.
- ▶ Selective sales taxes are imposed on specific items usually gasoline, alcohol, and tobacco. (Taxes on these last two items are frequently referred to as "sin taxes.") Revenues from these sales taxes are often tied to expenditures for specific and related benefits; for example, gasoline taxes to pay for highway construction, or cigarette taxes to pay for public health programs.

The sales tax is a cornerstone of the state-local revenue system in virtually every state and region, although there are regional differences in the usage of the tax. Nationally, state sales taxes range from about 3% to 8%, averaging about 5%. States usually establish and collect the sales tax, such that general sales taxes enter the state's coffers as general revenues. Many local governments in the U.S. also have the authority to levy some type of sales tax, however. North Carolina allows counties the option of raising revenues by a "local-option retail sales and use tax" added on to the state sales tax of 2 cents on the dollar. The state sets the rate, collects the proceeds along with its own sales tax (4 cents per dollar), subtracts its collection costs, and returns the remainder to the county where it was collected.

Whether to levy the local-option sales tax is solely a county decision, although all North Carolina counties now levy the additional tax. Once the state has credited allocations from the taxes to each county area, the proceeds are distributed among the county and other governmental units within it according to a specific formula. Counties may spend proceeds from their share for any public purpose they are authorized to undertake, although voters must approve some community development expenditures, and some of the proceeds must be set aside for education.

The successful operation of the sales tax depends on three administrative areas: registration of vendors, tax collection, and auditing and compliance.

First, the sales tax requires that all vendors register with the state government. For the purposes of registration, a vendor is any business or individual who sells tangible property. Since a list of vendors is essential to sales tax collection, the state government seeks to keep the list as comprehensive and up-to-date as possible.

Second, vendors serve as tax collectors. Businesses collect taxes on each sale and, in turn, make regular payments to the state and the local governments. The state and the local governments structure the payment schedule to minimize the time that the tax revenues stay in the vendor's hands.

The last component, auditing and compliance, holds the sales tax system together. Tax evasion can be minimized when the state implements computer-assisted auditing techniques; keeps the sales tax base as comprehensive as possible (i.e., minimizes sales tax exemptions); employs trained auditing staff; and imposes stiff penalties for evasion.

Despite some questions regarding equity and efficiency, state and local sales taxes remain popular with practitioners and the public, because of:

- ▶ ease of administration
- ▶ reliable revenue production
- ▶ relative invisibility (the tax is a small amount collected on most purchases), such that payers seldom object as they do with property taxes
- ▶ possible linkages between taxing and spending.

User Charges

Revenues from user charges finance numerous local government functions, in whole or in part. "User charges" means charges to those who voluntarily receive or use certain governmental services or facilities.

Many user-charge revenues are placed in a general fund and are available to support any general fund activity or program. Charges for recreation and cultural activities, ambulance services, cemeteries, and even solid waste collection are budgeted in the general fund in most cities. User charges for these and most general fund services typically cover only a small portion i.e., from 5% to roughly a quarter of the cost of providing the service.

Some activities supported by user charges are set up and operated as public enterprises. A public enterprise is an activity of a commercial nature that could be provided by the public sector. Most public enterprises are self-supporting or predominantly so. North Carolina cities may operate public enterprises for water supply and distribution, sewer collection and disposal, electric power generation and distribution, gas production and distribution, solid waste collection and disposal, public transportation, off-street parking, airports, and cable television.

User charges are feasible for any service that directly benefits individual users, is divisible into service units, and can be collected at a reasonable cost. For example, garbage collection provides a direct benefit to all users (their garbage is removed), the service is divisible into units (so many containers emptied at each residence), and the individual users can be charged for each container serviced. To take another example, golfers on a city golf course receive a benefit or service that is primarily individual, and therefore cities typically charge them a fee equal to or almost equal to the cost for their use of the course. Public transportation presents a somewhat different case. The users of public transit directly benefit from this service, and therefore they pay part of the public transit cost generated by their use. But those who drive their own cars also benefit from the system they have less traffic to contend with because the bus riders have left their cars at home. Consequently, cities require the users of public transit systems to pay part of the cost generated by their use, and the taxpayers pay the rest.

User charges also allocate limited services and resources efficiently. For example, free water, financed by general taxes, tends to be wasted. But when people are charged for water, they use it more economically.

Cities also often impose user charges for services that are used a great deal by nonresidents. For example, airports, parking facilities, cultural facilities, coliseums, and convention centers are often used by people from outside the city as well as by residents. The city cannot tax these outside users, but it can levy charges on them to recoup its cost for providing the

services that directly and individually benefit them.

Capital Finance: Municipal Bonds

Municipal bonds are interest-bearing certificates of indebtedness, or "IOUs" usually for long-term debt that local governments may issue. They are used to provide permanent financing for the acquisition, construction, or major renovation of capital assets. They are not to be sold in order to meet current operating expenses. The municipal bond market in the U.S. is quite developed and sophisticated. In brief, bonds work like this:

- ▶ The local government (or school district, special district, or statutory authority see below) determines that the area needs a project or facility that is too large or expensive to be paid for easily out of current revenues.
- ▶ Officials decide whether the project will:
 - (a) be used by diverse population groups, serve an overall economic or social purpose, promote the tax base, or serve some other local benefit (examples: parks, streets, schools, libraries); or
 - (b) be a special-purpose facility that has a definable user base and that is likely to generate a stream of revenue from user charges or the sale of a project-related product (examples: sewer and water systems, airports, industrial parks, hospitals).
- ▶ Based on the choice of (a) or (b) above, the government decides whether it will need an issue of either general obligation bonds or revenue bonds.
 - (a) General obligation bonds are backed by the general taxing authority of the borrowing government, and therefore are said to be issued with the "full faith and credit" of the issuer standing behind them. Because the borrowed money will be repaid with tax dollars, voters usually must approve this type of bond issue in a referendum.
 - (b) Revenue bonds are more restricted and are backed by a specified revenue source in most cases, the user fees that the new capital investment will generate. Since revenue bonds have limited backing, the issuer generally has to pay a higher interest rate than for similar general obligation bonds. They often can be issued without prior

voter approval. Revenue debt is used only when a charge is appropriate and a project's revenues are sufficiently large and predictable to meet all debt service requirements.

- ▶ Officials thoroughly assess the economic condition of the area (i.e., ability to repay the debt), weigh the costs of the project against the benefits, and analyze all possible ways of funding the project to make sure they are choosing the most desirable financing scheme.
- ▶ If a bond issue appears appropriate, the issuer secures the services of consulting specialists, such as a consulting engineer, financial advisor, and/or bond counsel. Using this expertise can save an issuer money by reducing the project cost, interest costs, and other expenses such as preparation of official documents. (North Carolina has a state agency that supports this function.)
- ▶ For general obligation bonds, the issuer campaigns to develop public approval for the project, and arranges to have the question placed on a ballot for voters to consider. If the plan is voted down, the project must be delayed, scrapped, or funded by other means. If voters approve the project, the government can move to the next step in planning.
- ▶ With the financial advisor's help, the issuer decides how the bond issue should be structured for instance, when the certificates will mature (i.e., the date when the principal is due to be paid to the investor), what denominations to use (usually \$5,000 amounts), etc.
- ▶ A security agreement is drafted stating such points as how the bond proceeds and any revenues from the finished project will be used.
- ▶ The issuer decides whether to sell the revenue debt competitively (most states require competitive bids for general obligation debt) or by negotiated sale.
 - (a) A competitive sale allows underwriters to bid against each other to purchase the debt, usually resulting in a lower interest rate or a higher price for the bonds. (An underwriter is a company or person who buys bonds from the issuer in order to resell them to investors. Underwriters' profits come from selling the bonds at a somewhat higher price than they paid for them.)

- (b) In a negotiated sale, the issuer works with an underwriter to determine the structure, timing, and price of debt that the underwriter will purchase. This type of sale is undertaken when complex transactions, uncertain security, or unusual size or purpose is involved.
- ▶ The issuer or underwriter then markets the bonds. Several major tasks are involved:
 - Prepare the documents needed to sell the bond issue
 - Obtain a bond rating (see below)
 - Choose a selling date
 - Advertise bonds and accept bids.
- ▶ The overwhelming majority of tax-exempt bonds are bought by commercial banks, individuals, and casualty insurance companies. Other holders are businesses, other governments, savings and loan associations, mutual savings banks, government pension funds, brokers, and dealers. The issuer immediately receives the proceeds when the bond issue is sold.
- ▶ Municipal bonds traditionally are issued so that they do not all mature on the same date. This helps the issuer spread out debt service and stay within the financial requirements. Thus, a certain number of bonds fall due each year from, say, 1 to 20 years from their date of issue.

Interest generally is paid to investors twice a year. The last interest payment is made on the same day the principal is due to the investor. Usually a bank serves as the issuer's agent for making the interest and principal payments.

There are several additional aspects of municipal bond financing that deserve mention. First, most municipal bond issues are rated by one of several rating agencies, which examine both the project to be financed and the debt management capacity of the local government. The rating is basically a summary score that reflects the likelihood that the local government will repay the bond on schedule. The rating determines the interest rate that the local government will have to pay when the bond is issued. The rating also determines the value of any given bond if it is sold in the secondary bond market a value that can go up or down depending on the competition from other forms of investment available at the time.

Second, most states place some type of debt ceiling on local

government borrowing, in terms of either the total amount of debt or the debt service that can be paid annually. North Carolina has approached this issue differently. Instead of having a debt ceiling, the state created a separate agency the Local Government Commission to supervise all local borrowing within the state. This agency must first approve each bond issue and then help the local government sell the issue. This high degree of supervision has given the North Carolina local governments very high credit ratings.

Local governments without good credit ratings can also purchase insurance to guarantee repayment, which, in turn, raises the bond rating. In this case, the insurance company becomes the backer of the bond issue.

Municipal bonds in the U.S. have one great advantage in that the interest earned on them is exempt from federal income taxes. In addition, the interest that the buyers earn is also exempt from state income taxes in the state where the bond is issued. This tax exemption is, in effect, a subsidy from federal and state governments to raise capital financing cheaply. As a result, municipal bonds carry interest rates below commercial market rates, reflecting the tax exemption.

In the early part of this century, state and local governments began to create new debt-issuing entities called authorities and special districts. Sometimes they were formed to administer a geographic area that encompassed or crossed several political boundaries; sometimes they were formed in order to administer and raise money for a single project whose purpose and use was not necessarily limited to one state, county, or city. Two prominent early authorities were the Port Authority of New York and New Jersey and the Triborough Bridge and Tunnel Authority. The debt issues of such authorities are exempt from federal taxes and are backed by conservative bond covenants and ample reserve funds.

Today, authorities and special districts of all kinds are found across the country. The majority of states, for example, have housing authorities, and special district bonds are commonly issued to finance water, sewer, and utility services where user charges are involved. Bond-issuing authorities have been created to finance and construct an increasing variety of public projects: transportation facilities, including roads, airports, docking facilities, and mass transit systems; sports arenas and convention centers; and resource recovery systems, educational facilities, and hospitals.

D. Budgeting: What is a budget, and how is it used?

Definition and Uses

In its simplest form, a budget is a document or a collection of

documents that refer to the financial condition of an organization (family, corporation, government), including information on revenues, expenditures, activities, and purposes or goals. In contrast to an accounting balance sheet, which refers to past conditions, a budget refers to expected future revenues, expenditures, and accomplishments.

The legal status of the budget document is not consistent from one political jurisdiction to another. In the U.S. federal government, the budget is greatly limited in status. It is the official recommendation of the President to the Congress, but it is not the official document under which the government operates. Instead, the official operating budget of the U.S. consists of several documents namely, appropriations acts. In contrast, local budgets proposed by mayors, city managers, or county managers may become the official working budgets as adopted in their entirety by the respective governing councils.

Sometimes there may be a series of budget documents instead of one budget for any given government. These may include:

- ▶ an operating budget, which funds routine operating expenditures. Typically in the U.S., by law, state and local governments cannot incur deficits in their current operating budgets. That is, they must balance the current operating budget each year.
- ▶ a capital budget, which covers major new construction projects. The capital budget funds expenditures on facilities and equipment that have a long life and that will generate benefits over several years (e.g., a wastewater treatment plant). Such capital expenditures usually require borrowing and then repaying the debt over a period of years, because the investment amounts tend to be large.
- ▶ special fund budgets, which cover programs that are funded by specific revenue sources (e.g., gasoline and tire sales taxes finance highway programs; user fees for fishing licenses fund restocking of streams).

Government budgets have several important uses, as described below.

- ▶ To describe the status of an organization agency, ministry, entire government, or any or organizational unit. The document may describe what the organization purchases, what it does, and what its specific accomplishments are.
- ▶ To explain causal relationships between purchases of

labor and materials on the one hand, and particular results on the other.

- ▶ To state the preferences of decision makers about how resources will be allocated among different agencies, activities, or accomplishments.
- ▶ To set the legal limits on what a government may do with regard to revenues and expenditures.
- ▶ To provide an opportunity for city officials to review and evaluate programs and activities, giving a broad perspective of city programs and decisions that must be made during the year.
- ▶ To implement policy changes by revising, reducing, or adding programs.
- ▶ To assist with management by assigning appropriations to departments and specifying what the departments should produce in exchange that is, helping to set goals and objectives.

Budgets in U.S. Cities

An annual operating budget in U.S. city functions as a planning document, a management document, and a control document. The budget serves as a planning document by relating expenditures to the goals adopted in a strategic plan and relating revenue efforts to a policy developed by local officials. As a management document the budget is used to measure performance by linking spending level to inputs (number of buses) and outputs (population served). The budget as a control document monitors the financial condition throughout the period.

Cities in the U.S. have annual operating budgets, special fund budgets and capital improvement budgets. The special fund budgets are contained budgets for a specific purpose such as a federal grant for a bridge project. Capital improvement budgets are budgets for multi-year (in terms of both completion and use) projects such as building construction. Capital improvement budgets must be considered in annual operating budgets because of the impact on operation and maintenance and debt service. When the capital improvement budget builds a new school, the operating budget must take into account the salaries and supplies to operate the school and the repayment of loans used to build the school. The discussion below relates to annual operating budgets.

Budget as a Planning Document

Many cities in the U.S. follow a budget cycle led by a central budget office or in smaller cities, the city manager's office. The budget office or city manager's office prepares instructions for the departments or operating agencies of the city. The instructions state the city's service goals and revenue policy (to pay for the costs of service). The departments or agencies are given instructions to develop expenditure projections and, if appropriate, revenue estimates that relate to the goals and to define input and output measures that can be used throughout the implementing period to monitor progress against the goals. The agencies are given a deadline to complete their budgets and submit them to the budget office or city manager's office. During the same period, the budget office or manager's office begins work with the revenue collection offices to estimate revenues for the coming year.

The budget office compiles the department or agency budgets and revenue estimates to prepare the city's budget. The budget office begins the process of balancing the revenues and expenditures. This requires negotiation among the various agencies and the mayor and council. The negotiations are guided by the service goals and revenue policy as well as the political climate for the elected officials. The approved budget balancing revenues and expenditures is published, usually in summary form, in local newspapers and submitted to public hearings. Citizens can obtain copies of the full budget. Citizen input is often focused on particular agency budgets (such as the education department) or on particular programs (such as meals-on-wheels funding for the elderly). Notice of hearings is also published in local newspapers. Local public advocacy groups may notify members to ask them to attend the hearings. In most cities, citizens do not vote approval on the budget. Their control is through the hearings and election of local officials. Once the elected local officials have approved the budget, the budget is implemented. The budget is not submitted to state or federal government for approval. The most important legal requirement is that the revenues and expenditures balance.

Sample Budget Calendar for City Government in the U.S.

Jan	Preliminary revenue estimates Budget calendar set Budget manual including instructions on performance measures, staffing and service level changes and an approach for balancing the budget is approved by City Council and City Manager
Feb	Worksessions held to issue budget manual and guidelines for department heads Operating departments prepare budget request with supporting performance data Budget Office analyzes revenue fees and estimates
Mar	Review of operating departments budget requests
Apr	Budget Office reviews requests with department heads to prepare a budget recommendation for allocation
May	Revisions made to the budget proposals Budget is balanced according to approach defined earlier
Jun	City Manager presents budget to City Council Public hearings are held after budget summary is published in newspaper City Council worksessions are held Second public hearings are held Budget and Revenue ordinances are adopted by City Council
Jul	Adopted budget finalized, printed and distributed Year-end report on objectives of previous year submitted by departments
Aug	
Sep	
Oct	
Nov	
Dec	Mid-Year Report on current year objectives submitted by departments Budget Office prepares a Mid-Year Report on operations (expenditures, revenues, and projects) and projections for year-end Budget Office prepares report showing prior year actual, current year original budget, six month

amended budget, and six month actual-to-date figures

Projecting Expenditures

A city's departments or operating agencies collect and review information that guides them in planning the service to be delivered and the costs required to deliver the service. Agencies review the current level of service being delivered and the inputs required. Agencies then determine the level of need for the service. The method for needs assessment vary greatly. The public transit authority may determine the level of need by monitoring the number of riders - empty buses indicates that people do not want bus service. However, a survey may inform the public transit authority that people would like bus service but the routes do not match the riders' needs. Cities have developed measures for needs assessment that can be used annually and may conduct a more in-depth needs assessment for a service every five or ten years.

Agencies do keep close account of current service levels and costs. These are based on actual experience, not on norms. To project expenditures, the agencies determine the service level to be delivered in the coming year and then calculate the costs to deliver at that level. If the agency is told in negotiation that the allocation will be less, the agency must determine a course of action. The agency can decrease service levels, can economize on the costs, or return to negotiations with the argument that the proposed costs are needed to deliver a service that reaches the city's goals.

Estimating Revenues

The finance department or revenue department is responsible for preparing the city's revenue estimates. Budget office instructions provide the guidelines within which the revenue estimates are made. The city's policy may be that property tax rates will not be increased or that the city should increase dependence on user fees. This should guide the revenue estimates made. Estimating the revenues then proceeds on the basis of each type of revenue. The department must estimate the appropriate tax base, the number of units taxed, and a collection efficiency. For user fees, the department estimates the number of users and calculates with the per unit costs determined by the department or operating agency.

If the departments or operating agencies have proposed realistic expenditures and the revenue estimates are not sufficient to meet expenditures, the revenue department may propose tax or user fee increases.

Final Budget Document

For the city to project expenditures and estimate revenues it needs information on the city's socio-economic condition as well as a plan for the government. The final budget document summarizes the socio-economic condition, the plan for the government and the final projections of expenditure and revenue. The budget usually contains a message that outlines the policy of the city council. In short, reviewing a U.S. local government budget provides a picture of the city.

Budget as a Management Document

The budget cycle for the year does not end when the budget is approved and published. The implementation of the budget allows the departments or operating agencies, the manager and the city council to manage the city's operations throughout the year and results in an improved budget the following year. Since the expenditure projections are based on projected service levels and costs, the agency director can monitor how closely operation matches projections. Many U.S. cities require that the department or operating agency submit performance measures as part of the budget instructions. The performance measures are then used to manage implementation.

For example, sending workers to a site at the beginning of the week and overseeing their daily work is important but not adequate from a management perspective. Nor is simply looking at overall expenditures of a department without asking about the quality, cost, and equity. The city manager may calculate that after increasing the number of crews collecting garbage, the total amount collected has increased from 4,200 tons during the previous period to 4,800 tons the current period. Does that mean service has really improved? The manager must ask the following questions.

What is the cost per ton collected this period compared to the last period?

What is the quantity collected per crew this period compared to the last period?

What portion of total garbage production is actually collected?

Cities have varying levels of sophistication of their performance management of the budget but all use the budget for management purposes. The agencies review the management performance, at least, at the end of the year to help project the expenditures for the next year.

Budget as a Control Document

The budget establishes key control points for the city manager. The audit ensures that the city's financial status is accurately reported and that the budget implementation complies with the budget purpose. For example, the manager is alerted if two-thirds of the agency budget is expended at the end of the first quarter or if funds are spent on unallowed items. Using the budget as a control document requires an accounting and audit system that supplies regular reports to managers. The audit establishes that funds are spent to accomplish the purposes defined in the budget therefore, an agency director can not spend funds on a housing project unless that housing project was approved in the budget process.

Audit standards are set by the federal government and are conducted by independent organizations. Audits types are pre and post-audit and internal and external audits. As implied by the name, internal audits are conducted by staff within the agency and external audits are conducted by outside organizations; pre-audit reviews the transaction before it occurs and post-audit reviews the transaction after it occurs.

Changes in Budgeting Philosophies

Recently, particularly at the local level, a movement has been under way in the U.S. to change the way budgets are prepared and administered.

The major problem with the traditional system is that it focuses an extraordinary amount of time and attention on dozens of specific line items. People who prepare the budgets are forced to state exactly what they will spend public money for, and how much, a year or more in advance. Governing boards then are forced to take the numbers they are given and make decisions about areas in which they may have little expertise. In the end, the departments or agencies have almost no discretion to reduce or increase spending based on what their "customers" might need.

The new "mission-driven budget systems" instead allow departments or agencies to set their own priorities, and to estimate how much they will need within a broad category, such as public safety or recreation. Managers still keep track of some line items for their own purposes, but they do not have to submit every line item beforehand for review and approval, and they can move money around as they see fit. Departments are expected to maintain the same level and mix of services, at a minimum. Each year, departments are granted roughly the same funding as the previous year, with marginal increases for inflation and salary adjustments. In some cases, departments are allowed to keep whatever money they are able to save, and invest it, for example, in new tools or experimental programs. The idea is to give every

employee an incentive to save money; to free up resources to test new ideas; to give managers the autonomy they need to respond to changing circumstances; to create a predictable environment in which managers know what their budget will be as much as six months before the fiscal year begins; to simplify the budget process enormously; to save thousands of dollars on auditors and budget officers; and to free governing boards to focus on the most important issues.

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III. Introduction to Debt Financing

One of the main characteristics of public finance in western market economies is that almost all local governments borrow for infrastructure improvements. This presentation addresses the central question: How can cities access this source of revenue?

In this section, the following basic questions will be addressed: What is debt?, Why do cities borrow?, What are the types of debt?, What are the basic concepts of debt financing?, Who is involved in debt financing?

A. What is Debt?

Debt is credit financing for local governments. Debt is a generic term that applies to many types of credit financing, including loans, bonds and commercial paper.

Debt is money borrowed for a specific purpose with a promise to repay with interest, within a certain timeframe and fulfilling certain conditions.

Debt is a contract between the borrower (local government) and the investor (bond holder or financial institution). The basic exchange is money for a promise to repay with interest. Bond covenants and other contractual instruments are enforced through the legal system. Bond covenants specify the amount of principal and interest to be repaid and conditions of repayment. Conditions of repayment are generally focused on assuring bond holders that their investment is safe and will be repaid. Examples of types of special conditions include payment schedules, sinking funds, coverage requirements and pledges of alternative sources of revenue.

B. Why Do Cities Borrow?

Cities borrow for many reasons. Some reasons are viewed favorably by financial markets and others are viewed as indicators of financial distress.

Providing Revenue

The main reason cities borrow is to provide revenue. Cities can borrow to provide revenue for capital investments or to provide revenue for operating expenses. Borrowing to build capital facilities that provides a completed facility in a timely manner is generally seen as an appropriate use of debt. Long term debt is used to finance facilities and infrastructure. Capital financing also includes debt for equipment. This debt is short to medium term debt. The issues in this type of borrowing focus on the city's ability to repay the debt. The financial policy that guides debt used for capital expenditures is

that the term of the debt should not exceed the useful life of the facility or equipment being financed.

Borrowing money to fund operations expenses is generally considered a sign of financial trouble, and indication that on-going revenues are not sufficient to fund on-going expenses. There is a type of borrowing for operating expenses to even out cash flow (tax anticipation notes) that is not necessarily viewed negatively, but generally borrowing for operating revenue is a practice to avoid. The financial policy governing this type of debt is that current revenues should be sufficient to fund current expenses. Another financial policy affecting debt for operations is that the city will establish reserves sufficient to cover any cash flow problems or emergencies. No short term debt for operations is generally a sign that these policies are being followed.

Matching Cost and Benefit Over Time

Another reason cities borrow money is to better match costs and benefits of facilities over time. Capital facilities have a useful life of several years. If facilities are financed with cash, present day users bear the full burden of the cost, even though future users share in the benefits. Using debt means that those who benefit from the facility will also help pay for it. Future users pay future costs.

The criteria used to judge the credit worthiness of this reason for borrowing is the term of the financing compared to the useful life of the facility. As long as the debt repayment does not last longer than the facility can be used, debt is considered a good financial strategy.

Leveraging Resources

Debt is also a way to leverage resources, to make a local investment an incentive for other investments. Various governments, development banks and other institutions have monies that require local commitment or matching funds. If a city is willing and able to finance part of the capital project through debt, other funders may be more willing to also participate in the financing. Sometimes one source of capital is not sufficient to fully finance a capital project. Using debt allows consortia to fund projects. Debt is also used to leverage private contributions or donations. The city announces that it will fund a certain percentage of a new capital facility if the private sector will raise the remaining amount. In these ways, cities can use debt to leverage other resources.

Local Autonomy

Another important reason cities use debt is to encourage local autonomy. If cities can raise their own capital, they are not dependent on transfers from the central government or grants that come with regulations and special conditions. Cities can then plan capital improvements based on need and affordability at the local level. Cities that can pay off debt with their own revenues can negotiate terms for their debt that make sense based on local conditions.

Strengthening local autonomy requires cities to develop their capacity to finance operations and capital expenses from their own revenues. Debt can facilitate local financing of capital projects.

Financial Discipline

Another benefit to using debt is that it imposes a certain financial discipline on a city. Creditworthiness of a city is judged on many criteria, including improving economic conditions, political stability, the willingness to raise own source revenues, the effective management of city operations and the practice of sound financial management. All of these criteria have other benefits for the city as well. Cities will sometimes change poor practices or improve conditions to make it easier and cheaper to borrow money. Sometimes people will do something to improve the city's bond rating that they would not do otherwise. In this way, issuing debt can encourage financial discipline and good management.

C. Types of Debt

There are many types of debt, including bonds, loans and short term securities. Debt is described by its term as well. Short term debt usually means debt repaid in less than a year, but no more than about three years. Short term debt is often used to fund operations. Medium term debt usually has a term of 5-10 years. Medium term debt is often used to finance capital equipment. Long term debt usually has a term of 20-25 years and is used to finance capital facilities and infrastructure.

Bonds

Municipal bonds are interest-bearing certificates of indebtedness for long term debt that local governments issue. They are used to provide permanent financing for the acquisition, construction or major renovation of capital assets. They are not sold to cover operating expenses. There are two types of municipal bonds: General Obligation (G.O.) bonds and Revenue bonds.

A. General Obligation bonds are backed by the general taxing authority of the borrowing government, and therefore are said to be issued with the full faith and credit of the issuer standing behind them. Because the borrowed money will be repaid with tax dollars, voter usually must approve this type of bond issue in a referendum.

General obligation debt is typically issued to finance public infrastructure benefitting all residents of a city, such as parks, streets, schools and public buildings.

In the United States, the most important potential revenue source is property taxes, and the general obligation bond includes a promise to levy whatever taxes are necessary on property within the city to repay the debt. This strong security makes these bonds less risky than revenue bonds, and therefore usually marketable at a lower interest rate than revenue bonds.

Because repayment of general obligation debt can affect all residents, most U. S. states have laws limiting the amount of general obligation debt a city can issue (usually a percentage of assessed value of property within the city limits). In addition, cities also adopt policies for debt management that impose limits on the amount of debt they will issue.

B. Revenue bonds are backed by a specified revenue source---in most cases, the user fees that the new capital investment will generate. Since revenue bonds have limited backing, the issuer generally has to pay a higher interest rate than for similar General Obligation bonds. Revenue bonds can frequently be issued without voter approval. Revenue debt is used only when a charge is appropriate and a project's revenues are sufficiently large and predictable to meet all debt service requirements.

Revenue bonds are typically issued to finance capital investments that have a definable group of users, and/or that will generate a specific and identifiable revenue stream. Examples include airports, water treatment plants, toll roads and bridges, convention centers, parking garages and other fee-generating facilities. If the facility or other designated revenue source does not generate the projected revenues to retire the debt, the city is not legally required to use other revenue sources to pay the bond holders. This makes these bonds more risky than general obligation bonds.

In the U.S., revenue bonds typically include covenants requiring the issuer to set fees and charges at an adequate level to pay the debt service, limiting the city's right to incur additional debt and provisions for establishing reserves to pay the debt if cash flow does not meet projections.

Tax increment bonds are special kinds of revenue bonds, often used to finance regional improvements that are projected to increase commercial activity and property values. A base year revenue amount is established, and subsequent increases in revenues from sales tax and/or property tax are pledged to repay the debt. Typical projects are new interchanges on major highways or new access roads to open up areas for development. Tax increment financing can also be used to redevelop deteriorated downtown business areas.

Special district bonds are payable from revenue of special districts, quasi-municipal entities often organized to provide urban services outside municipal boundaries. Special districts are often created by developers as a vehicle for providing infrastructure to newly developing land. The taxes or charges that repay the bonds are paid by residents or businesses who subsequently occupy the land.

Special assessment district bonds are bonds supported by revenues generated in specific areas of a city that the city council has determined will receive a particular benefit from some improvement, such as a new road or a water or sewer line. The property owners specifically benefitting from the improvement are charged a special assessment to cover the cost of the improvement. The city may borrow money for the improvement, pledging the revenue from the special assessments to repay the debt.

There are two ways bonds are sold: competitive sale and negotiated sale. In most states in the United States, General Obligation bonds must be sold by competitive sale. For Revenue bonds, the issuing local government usually has a choice in the way the bonds are sold.

A. A competitive sale allows underwriters to bid against each other to purchase the debt, usually resulting in a lower interest rate or higher price for the bonds. (An underwriter is a company or person who buys bonds from the issuer and resells them to investors. Underwriter's profits come from selling the bonds at a somewhat higher price than they paid for them.)

B. In a negotiated sale, the issuer works with an underwriter to determine the structure, timing, and price of debt that the underwriter will purchase. This type of sale is undertaken when complex transactions, uncertain security, or unusual size or purpose is involved.

Municipal bond issues are rated by one of several independent rating agencies, which examine both the project to be financed and the debt management capacity of the local government. The rating is basically a summary score that reflects the likelihood that the bonds will be repaid on schedule. The rating determines the interest rate that the local government will have to pay when the bond is issued. The rating also determines the value of any given bond if it is sold in the secondary bond market (the market that buys the bond from the underwriters)--a value that can go up or down depending on the competition from other forms of investment available at the time.

Local governments can also purchase insurance to guarantee repayment, which, in turn, raises the bond rating. In this case, the insurance company becomes the backer of the bond issue.

Interest on municipal bonds in the United States is exempt from federal income taxes. Generally, this interest is also exempt from state income taxes in the state where the bond is issued. These exemptions are subsidies from the state and federal governments to raise capital financing for local governments. As a result, municipal bonds carry interest rates below commercial market rates, reflecting the tax exemption.

Loans

Another type of debt available to cities is a loan. Cities as municipal corporations can borrow money directly from a bank. Like consumer or commercial loans, this type of debt is set at a certain interest rate and repayment schedule.

Another type of loan can involve a governmental revolving fund. For cities that cannot access the private capital market at reasonable rates, states sometimes set up revolving loan funds. The state may use its credit rating to sell bonds to capitalize the fund, or may transfer existing revenue to the fund to provide the initial capital. Cities can then borrow funds from the loan at a certain interest rate and with a specific repayment schedule. These revolving funds generally finance only certain types of infrastructure and are most

often used by smaller communities or communities that cannot sell bonds directly.

The current experience in Eastern Europe and the former Soviet Union show five main types of credit available to city governments today, four of which are loans:

1. Short term loans at market rates from commercial banks
2. Medium term loans at market rates from commercial banks
3. Medium term loans at market rates from city banks
4. Medium term loans at subsidized rates from State Environmental Funds
5. Local government bonds for short and medium term periods.

Most of the borrowing that has taken place so far in Eastern Europe has fallen into the first two categories and the fourth category, all loans. There is very little borrowing from special purpose municipal banks and very little use of municipal bonds.

Short Term Securities

Commercial paper is an instrument of indebtedness that is issued for medium term debt, usually to finance capital equipment or to provide interim financing for capital facilities and infrastructure. Types of commercial paper include Certificates of Obligation (C. O. s), Certificates of Participation (C. O. P. s) and Notes.

Notes are also used to bridge the gap between when expenses occur and when revenue is available. Such notes include Tax Anticipation Notes, Revenue Anticipation Notes, Tax Exempt Commercial Paper and General Obligation Notes. These notes are issued in anticipation of revenues (either tax revenue alone or all general revenues) and are payable out of those receipts.

These short term securities have broadened the types of municipal securities in response to more rapid changes in interest rates.

D. Managerial and Financial Practices to Enhance Security of Debt

The American municipal bond market is characterized by a high degree of comfort by investors that they will be paid interest and principal in a timely fashion over long periods of time: a remarkable financial "handshake" between many different types of subsovereign governmental units (and nonprofit health, educational, and cultural institutions) and private investors. This high degree of comfort is achieved by an entire municipal credit culture that has grown in its fundamental soundness and reliability over time as its capital requirements have multiplied. No single element accounts for the sound municipal credit culture that has developed in the U.S. Rather, a web of interacting systems and practices has evolved to provide the comfort that citizens and investors (often the same people) require. Perhaps the most fundamentally important elements in a sound municipal

credit system are the managerial and financial practices and systems adhered to by subsovereign borrowers and issuers themselves. These include:

Efficient and effective public financial management practices such as:

careful budgeting and accounting for public revenues as they are collected, invested and spent;

conservative investment practices for both cash and the proceeds of borrowing, practices which place the safety of principal paramount over all other considerations, including investment yield; and

the use of third-party auditing to provide an independent post hoc review of financial accounts and managerial practices of subsovereign governmental bodies.

Full disclosure of financial and other information necessary for lenders and investors to make informed buying and selling decisions (and for voters to be able to hold officials accountable for their actions);

The careful preparation of capital projects, including such practices as:

feasibility analysis, including the use of widely respected outside consultants capable of making independent judgments regarding revenue projections, constructions costs, and other pivotal project characteristics; and

use of "life-cycle costing" and similar techniques that encourage the evaluation of the full range of proven technologies, so that affordability can be designed into an infrastructure system from the start of its development;

The development of broad community consensus behind infrastructure projects and their operation, using such techniques as:

capital budgeting with 3-year, 5-year, or even longer "rolling" time frames;

publicly disclosed capital investment plans (CIPs);

public service consumer information, education and feedback techniques designed to keep public service providers as customer-oriented as possible; and

public referenda, depending on state laws regarding the authorization of debt requiring the use of a full faith and credit (general obligation) pledge.

The American municipal credit market system has evolved through a long and idiosyncratic history, some of which has little relevance to the

current South African situation. However, there were two periods in the past 75 years when investors and lenders lost confidence (or it was widely feared that they would lose confidence) in the historic safety of municipal loans and bonds. For both periods, the speed and severity with which they occurred is similar to the constriction in South African municipal credit access resulting from the pending and actual changes in the political system. Therefore, we think it is useful to examine how American market confidence was restored in each instance.

The first of these investor confidence crises occurred during the Great Depression, beginning in 1929. As the Depression deepened and spread, municipal defaults on outstanding debt began to occur. In order to restore direct lender and bond investor confidence in the municipal credit market and to ensure the continued delivery of vital municipal services a number of states responded to municipal failures by toughening existing regulatory regimes or installing entirely new regulatory systems. Components of these regulatory systems often included:

accounting and/or auditing standards;

debt limits and/or debt review or approval systems; and

budgetary format, disclosure and public review standards.

The resulting state regulatory systems overseeing local government systems which have been changed and refined over time since the Depression now show a remarkably diverse range of characteristics. For example, the North Carolina system includes a substantial amount of assistance in the development and sale of bond issues along with the regulatory oversight. (For this and a variety of other reasons, North Carolina boasts 20% of all the AAA-rated municipalities in the nation.) Prospective municipal budget review is included as a key feature in New Jersey's system, and one of the objectives of this review is to ensure that adequate provisions for service of all outstanding and planned debt in every municipal budget. Municipal debt limits are commonly used state regulatory devices in the U.S., but these limits vary widely in design and effectiveness.

E. Principles in Debt Financing

Some basic principles in debt financing are explained in the following section.

Understanding present value

This section will introduce the theory behind present value analysis, which is sometimes useful in deciding which of several possible financing structures is the most cost-effective.

i. The value of money varies with time

The value of money depends on when it is to be received, or spent. A dollar expected soon is worth more than a dollar to be received in the

distant future. If you have a dollar today, you can invest it, and it will be worth more than a dollar in the future. Accordingly, financial managers discount cash to be received in the future: it is worth less than cash in hand today.

Similarly, a dollar spent today costs more than a dollar spent in the future. You can invest less than a dollar today, and let it earn enough interest to pay a dollar in the future. Therefore, as with future revenues, future cash expenditures are discounted. Effectively, such expenditures cost less than cash that must be spent today.

Of all of the techniques used in financial analysis, none is more important than discounted cash flow analysis.

ii. Present value

Suppose you are offered the alternative of receiving either \$100 at the end of 5 years or \$74.73 today. Suppose there is no question that the money would be paid in five years (perhaps it is a U.S. government obligation). If you have no current need for the \$74.73, you might deposit it in a bank account that pays interest. Assume that the real interest rate over the entire 5 year period would be 6% per year, compounded annually. This 6% rate determines your opportunity cost, i.e. the interest you could make on an equal risk investment. It happens that \$74.73 would grow to equal \$100 in 5 years, at 6% compounded annually. Therefore, the two choices are equivalent.

If, on the other hand, someone offered you \$80 today or \$100 in five years, you should take the \$80. \$80 is worth more than \$74.73 (the discounted value of the \$100 to be received 5 years from now).¹

If you were offered \$70 today or \$100 in the future, you should wait for the \$100. \$70 is worth less than the \$74.73 that represents the discounted value of the future \$100.²

In summary, the present value of a future sum is the amount you would need to invest today to grow to that future sum. In other words, the present value of a sum due in the future is the amount which, if on hand today and invested at the opportunity cost rate, would grow to equal the future sum.

In our example, the 6% interest rate is also the discount rate: the rate at which future cash flows should be discounted to determine their present value. Discounting is the reverse of compounding. Applying a 6% discount rate, \$100 to be received in 5 years is worth only \$74.73, discounted to its present value.

Looking at future values gives the same result: in five years, \$80 will have grown to \$107.06, more than the \$100 you would get under the alternative.

Looking at the future value confirms this: \$70 invested at a compound annual rate of 6% will be worth only \$93.68, less than the \$100 alternative.

iii. Net present value

Calculating net present value ("NPV") is straightforward: each cash flow (both receipts and expenditures) caused by a project is discounted to its present value. These present values are summed, giving the net present value of the project.

Net present value analysis allows you to compare the real cost of various cash flows. Which is worth more, \$100 per year for 10 years or \$200 per year for five years? By discounting both cash flows to their net present value, using a 6% discount rate, we find that the former is worth \$736.01, while the latter is worth \$842.47. This confirms our earlier observation that money received earlier is worth more than money received later.

iv. Application to municipal projects

Example 1: Suppose a city is trying to decide whether to buy a \$100,000 road grader with its own funds or to finance it, for example by a lease-purchase arrangement. The present value cost of buying the grader outright is \$100,000: this cost is not discounted because it needs to be paid today.

The NPV cost of the financing alternative is calculated by discounting each payment to its present value, and adding these together. Principal and interest are treated alike: they are both cash outflows. In the example below, we have used an 8% discount rate -- this is what we assume the city could earn on its money if it invested it in a safe investment.

		<u>Present Value</u>
P & I payment, end of year 1:	\$40,000	\$37,037.04
P & I payment, end of year 2:	40,000	34,293.55
P & I payment, end of year 3:	40,000	<u>31,753.29</u>
NPV Cost:		\$103,083.88

In current dollars, it is over \$3,000 more expensive to finance the grader than to buy it outright. Therefore, in this example, if the city has the money, it should buy the grader with its own funds rather than finance it. If the city is in a cash bind, and doesn't have the \$100,000, NPV analysis is not helpful.

Example 2: Now suppose everything else is the same, except that the city could earn 10% on its investments, so that 10% becomes the discount rate:

		<u>Present Value</u>
P & I payment, end of year 1:	\$40,000	\$36,336.34

P & I payment, end of year 2:	40,000	33,057.85
P & I payment, end of year 3:	40,000	<u>30,052.59</u>
NPV Cost:		\$99,446.78

With this assumption it is over \$500 less expensive to finance the grader than to buy it outright. Obviously, NPV analysis is sensitive to the assumptions one makes about a discount rate.

In general, if the true interest cost (including all issuance costs) is less than the expected rate of return on investments, the City should finance. In the examples above, the true interest cost is 9.7%. Therefore, if you expect that the City can earn more than 9.7% on investments, the City should finance the purchase. If you expect the City would earn less than 9.7% on investments, the City should pay with its own funds, if it has the cash available.

Risk vs. Return

Investors buy, hold and sell municipal bonds and other investments in order to earn returns on them. They have a choice of investment opportunities, both domestically and abroad. Within the spectrum of financial assets, why do some people buy common stocks instead of safely depositing their money in an U.S. government-insured savings account? The answer, surely, is that they are trying to earn returns larger than those available from such safer (and lower yielding) assets as savings accounts and U.S. Treasury bills. They know they will be taking a greater risk of losing some of their money by buying common stocks, but they expect to earn a greater return. Investors would like returns to be as large as possible: however, this objective is subject to constraints, primarily risk. There are different types and therefore different definitions, of risk. We will define risk as the chance that the actual return on an investment will be different from its expected return. We can say that the nominal return on a U.S. Treasury bill has no practical risk because there is no reasonable chance that the US government will fail to redeem the obligations as they mature in 13 or 26 weeks. On the other hand, there is some risk, however small, that even established companies such as IBM or General Electric will be unable to redeem an issue of 30-yr bonds when they mature. And there is a very substantial risk of not realizing the expected return on any particular common stock over some holding period.

There are a number of different types of risks investors consider:

i. interest rate risk

Also known as "market risk," this is the risk that the actual return on a municipal bond or other investment will be less than anticipated due to changes in the overall market level of interest rates. Such changes affect securities inversely. That is, other things being equal, prices of municipal bonds and other securities move inversely to interest rates. Interest rate risk affects bonds more directly than common stocks, and

is a major risk faced by all bondholders.

Regardless of the nominal rate of interest indicated on the face of a municipal bond, the secondary market (i.e. resale market) adjusts the selling price of the bond so that the effective rate of interest to the purchaser remains comparable to other issues of similar term and risk level. The market does this through discounts and premiums. For example: a 17 year bond issued two years ago should yield a purchaser approximately the same interest as a 15 year bond issued today. If today's market interest are lower, the secondary market will price the two year old 17 year bond at a premium, so that the yield to the purchaser will be roughly the same. If today's interest rates are higher, it would be difficult or impossible to sell the two year old bond at face value, so the seller will offer a discount off the face value to attract a purchaser.³

ii. inflation risk

A factor affecting all securities is purchasing power risk, or the chance that the purchasing power of invested currency will decline. With uncertain inflation, the real return involves risk even if the nominal return is safe (for example with a U.S. Treasury bond). This is related to interest rate risk since interest rates generally rise as inflation increases because lenders demand additional inflation premiums to compensate for the loss of purchasing power.

For a Russian municipal debt issue, inflation risk will be a serious concern of potential investors. Unless inflation risk is limited, investors will be reluctant to buy long-term municipal bonds. There are two basic ways of limiting this type of risk. First, the loan can be denominated in a stable currency, such as Deutsche Marks, Japanese Yen, or U.S. dollars. If this is an international loan, the lender will most likely make this a requirement. To further mitigate the risk of local currency devaluation and the resulting foreign exchange risk, the municipal government can be required to make payments under a fixed exchange rate, with all the fluctuations to be absorbed by the national government. This is the way foreign exchange risk has been dealt with when the national government of Poland has on-lent World Bank funds to Polish municipalities.

A second way to deal with inflation is to provide that the debt service

An "original issue discount" is a similar discount that is structured into the terms of the original deal between the issuer and the underwriter or lender. If the face value of a bond is \$10,000, the issuer might sell the bond to the original purchaser for only \$9,900, i.e. at a discount of 1%. Because the issuer receives less than the face value of the bond, he will pay a lower interest cost. An "original issue premium" is a premium that is part of the initial sale. For example, a purchaser might pay \$10,000 (a 1% premium) for a \$10,000 bond, and receive a higher interest rate. Such discounts and premiums are sometimes used to match the bonds to the expectations of capital markets.

will be paid in local currency that has been adjusted for inflation. The results are basically the same as with a hard currency denominated issue.

Properly addressed, the inflation risk can be essentially eliminated from a Russian municipal debt issue.

iii. credit risk

This is the risk that the credit quality of the issuer may fall. Because of the inverse relationship between risk and return, investors are willing to accept a lower interest rate from a highly rated issuer. Once an investor has locked in to the lower interest rate, if the issuer's credit rating falls, the value of his investment on the market is lessened.

iv. call risk

Call risk is associated with municipal bond issues that have early redemption provisions. The risk to the investor is that the issuer will "call" (i.e. redeem prior to final maturity) a bond. The investor is paid interest to date, and sometimes a call premium, but does not have the benefit of the anticipated return to maturity. If an investor purchases a 10 year bond with 10 percent interest, but market rates fall to 9 percent, the issuer is likely to call the bonds (and borrow the money elsewhere at the lower current interest rates). If the investor wants to keep his funds invested in municipal bonds, he will only be able to get the current rate of 9 percent.

v. liquidity risk

This is the risk associated with the secondary market in which the municipal bonds would be traded. An investment that can be bought or sold quickly and without significant price concession is considered liquid. The more uncertainty about the time element and the price concession, the greater the liquidity risk.

The absence of a strong secondary market in Russia means that most Russian municipal bonds will be highly illiquid. This adversely affects the value of the bonds, and pushes the interest rate higher.

vi. political risk

This is the risk of political changes that can jeopardize the ability of the borrower to repay the loan or affect the investor's benefit from the loan. In Russia, for example, Yaroslavskaya Oblast was denied the status of government security for its bonds. This was a policy decision on the national level. This resulted in the loss of the tax exemption for Yaroslavskaya Oblast bonds, which made them less attractive for local investors.

Another example of political risk would involve a city which promises investors that it will maintain a certain level of service charges in order to repay the debt. Such service charges would typically be the main source of revenue for repaying money borrowed for infrastructure projects. In many cases former Soviet cities do not have the right to set

user charges themselves. Therefore, even if the rates are initially set at an appropriate level, the investor cannot be assured that the city can adjust the rates as and if needed to service the debt.

When funds are invested by a foreign lender, the lender may seek protection against the borrower's domestic political risk in the form of guarantee from the lender's or borrower's national government.

It is important to remember that expected return and risk go together. An investor cannot reasonably expect larger returns without being willing to assume larger risks. And investors will not willingly assume more risk unless they expect to receive additional return. This means that a certain rate of return is required in order to induce an investor to purchase a given security. U.S. investors can earn a secure rate of return by investing in essentially risk-free assets such as U.S. Treasury bills. Similar opportunities exist in most market economies. Compared to these safe investments, the bond of a Russian city carries significant risks, and investors will expect a premium to compensate them for the additional risk assumed. However, compared to debt of commercial enterprises, local government debt may be seen as relatively risk-free. While a commercial enterprise can cease operations and become insolvent, the local government is likely to be around for the long term, and has a vested interest in protecting its reputation and credit rating by honoring its debts.

Local Russian investors may not have alternatives which are as secure as U.S. Treasury bonds. If other investments available to them are less risky than municipal bonds, municipal bond interest rates will reflect a higher risk premium than these other investments. If other investments are more risky, municipal bonds may be able to offer lower interest rates.

The amount of the risk premium is as a function of the types and level of risks involved. The following graph illustrates the tradeoff between risk and return, with the intercept being the risk-free return.

Based on financial data provided by the city, and based on their own evaluation of the situation, potential investors will evaluate the likelihood of the city making good on its promise to repay the loan. In other words, they will make the conclusion about the quality of the city debt and the level of risk that it carries. A city whose debt is perceived as risky will have to reward investors with a high interest rate.

The interest rate that the municipal bonds must pay to attract investors is a function of the market place. Like the price for other things, the price for the use of money is controlled by the principles of supply and demand. To estimate the appropriate interest rate, it is important to think about where the money is likely to come from -- who are likely investors in these municipal bonds? Who has the necessary accumulations of capital to buy the bonds? Enterprises? Individuals? Mutual funds? Russians? Foreigners?

What are the other investment opportunities available to these investors, and what rate of interest do they provide? From the point of view of the potential investor, are the municipal bonds more or less risky than these

other investment opportunities? If the bonds are seen as more risky, the city will have to pay a higher rate to attract investment funds. If the municipal bonds are seen as less risky by potential investors, the city can offer a lower rate than is offered by other investment opportunities.

Tax Exemption -- effective rates of interest

A fundamental characteristic of local government debt in the U.S. is that interest income received by the lender from the city is usually exempt from federal income tax. To be tax exempt, a bond must meet certain criteria spelled out in the U.S. Internal Revenue Code and regulations. In general, the debt must be for a recognized public purpose, and the investment must benefit the public at large, as opposed to specific individuals or corporations. Examples of investments benefitting the public at large include schools, roads, water treatment plants, and jails. Investments in a private corporation's factory or shop would not be tax exempt as a matter of Federal law, and are generally prohibited outright as a matter of state law. U.S. law on the tax exempt status of bonds issued to finance "public" improvements owned and operated by private companies has changed over time.

In the U.S., because the interest is tax exempt, lenders are willing to lend to cities at lower rates of interest than they would charge a corporation for debt of comparable risk. For example, to an investor in a 40% marginal federal tax bracket, a municipal bond paying 6% annual interest is equal to a taxable instrument paying 10% annual interest.

However, the U.S. practice in this regard is somewhat unusual in the world. It is rooted in history and the federal constitution, rather than representing a conscious policy decision. It amounts to a subsidy by the federal government for all municipal borrowing, regardless of whether the borrowing city is rich or poor, large or small. Critics of the U.S. tax exemption argue that the largest beneficiaries are wealthy individuals and corporations, rather than cities, and that the class-based subsidy might better be replaced with needs-based assistance. Other critics point out that the U.S. practice provides an unwarranted competitive advantage for governmental service providers over private providers, discouraging private sector investment in infrastructure. Because pension funds in the U.S. are exempt from taxation on their income in any event, they avoid investing in low-paying municipal bonds, so that a major source of capital is unavailable for infrastructure investment.

Although the U.S. tax exemption for municipal interest is not necessarily typical, it is not unusual in other countries for national or regional governments to assist local governments with their capital finance needs, including subsidy assistance.

It is important to note that local government borrowing does not depend on a U.S.-style tax exemption for municipal interest. However, as long as local governments hope to access subsidized credit, they will be reluctant to borrow at market rates.

This is a policy issue for the Russian government -- should local government borrowing be subsidized by the national government? If so, should it be done through an income tax exemption for municipal interest, as in the U.S., or through targeted grants or subsidized credits as in

some other countries? Should there be some sort of intermediary institution, such as France's Credit Local, Denmark's Cooperative Municipal Bank, or many countries' Municipal Development Funds?

Sources of Revenue for Repayment of Debt

The ability of local governments to incur and repay long-term debt depends on the recurring revenue streams available to them.

With general obligation debt, all sources of revenue available to the municipality can be used for debt service. The largest sources of revenue for Russian cities are regulating revenues as apportioned by national and oblast governments. Russian cities have limited authority to set and collect their own taxes. Own-source revenues typically account for less than 10% of municipal revenues. Because Russian cities lack control over their tax revenues, and because revenue-sharing formulae have changed often, long-term tax revenues are relatively uncertain.

For revenue bonds, user charges and fees, often generated by the facility being financed, are pledged to service the debt. Communal services facilities are often financed by a pledge of service charge revenues, accompanied by a covenant to set rates at levels high enough to cover the debt service. Cities will need the flexibility to set these fees and charges at appropriate levels in order to be able to borrow against these revenue streams.

For all types of municipal debt, the predictability and stability of revenue sources is a key factor. The more predictable these revenue sources are, the more comfortable a city can be in planning to spend a certain amount each year on debt service, and the more comfortable the market will be that adequate revenues will be available to repay the debt.

Because control over local revenues and stability of revenues are important to cities' abilities to engage in capital finance, this is an important policy issue for the Russian government. Should local governments be given greater taxing authority? Greater authority over fees and charges? Should intergovernmental revenue allocation formulas be fixed?

One advantage that many Russian cities have over their U.S. counterparts is that Russian cities have assets such as land, housing, and municipal enterprises that can be sold to finance local capital investment. Obviously, the proceeds from such one-time sales are not a permanent solution to financing infrastructure needs, but they can be an important part of infrastructure finance during the transitional period. Conceptually, it is sounder practice to use such one-time proceeds to fund one-time capital infrastructure investment than to rely on non-recurring sales proceeds to fund recurring operating deficits.

Capital Improvements Planning

Before issuing debt, a local government should have a clear idea of the types of project it intends to finance, what these projects will cost, and when they will be done. Development of an overall capital

improvements plan is an essential first step. The capital improvements plan should represent a consensus of the executive and legislative officials of the city, and should reflect the priorities of the local citizens.

A capital improvements plan should identify the projects to be funded, the potentially available funding sources, and ongoing operating and maintenance impacts of the projects. The elements of capital improvement planning are:

- evaluating the level of service desired or needed by the community
- identifying the public facilities needed to meet that level of service
- prioritizing, i.e. determining the relative importance of these facilities
- determining when the facilities are needed
- determining how to pay for the facilities

Because capital planning is a dynamic process, a mechanism should be established for reassessing needs and priorities, and for making other adjustments to the plan.

The capital improvements plan is an important management tool that allows city officials to:

- I. establish priorities among competing capital improvement projects
- ii. match capital improvement projects with appropriate financing techniques
- iii. plan for debt issuance to meet expenditure requirements

A well-prepared capital improvements plan is important to potential investors (directly or via rating agencies). It demonstrates the city's commitment to systematically improving or replacing its capital infrastructure. It shows that the city has evaluated its long-term financial resources and has a plan to meet both capital and operating needs. Creating and maintaining a reserve fund for unexpected expenditures or to cover revenue shortfalls is an important part of a capital improvement plan.

Formulating a Debt Policy

The city council of any city planning to issue municipal bonds should adopt a written debt policy. This policy helps establish limits and provide general direction to the city's executive committee and financial managers in the planning and issuance of debt. Each actual debt issue should be specifically approved by the Council, but developing an overall debt policy assures that relevant policy questions are considered from a broader perspective than that of any individual debt issue.

In addition, a debt policy lets the City's policy makers integrate debt planning with other long-term planning and financial objectives.

A carefully crafted and consistently applied debt policy signals lenders and rating agencies that the city is committed to controlling its

borrowing.

Some of the items that should be spelled out as a matter of policy are:

- i. what are acceptable levels of short and long term debt?

Some limits may be established by law. But even within these limits, the city must decide to what extent it is willing to give up future flexibility. Debt issuance involves a trade-off. In exchange for funds for current capital improvements, future spending is limited. The degree to which a City is willing to make these trade-offs depend on the urgency of its capital needs, its expected rate of growth, economic trends, and the stability of its overall finances.

If other levels of government, e.g. an oblast, also issue debt against the same tax base, an overall limit should be established to avoid issuing more debt than the tax base can support.

- ii. what are acceptable purposes for which debt can be issued?

To what extent must there be a public benefit? Must the improvement have a useful life of at least the term of the bond issue? Are water and sewer bonds acceptable, but not school bonds?

- iii. to what extent, and for what purposes, will the city use general obligation bonds vs. revenue bonds?

See the discussion above: where the city can use revenue bonds, it is less limiting of future flexibility. However, not all important projects generate reliable revenue streams to repay debt.

- iv. for what purposes will the city use "pay-as-you-go" financing, and for what purposes will it consider debt financing?

In general, a city should not issue debt for ongoing operations and maintenance, nor for short-lived improvements or repairs. Cities can also consider shifting infrastructure development costs to beneficiaries, e.g. through user fees, service charges, or developer financing.

- v. will the city use variable rate debt, or will it only issue fixed rate obligations?

In a highly inflationary economy, fixed rate long term issues are not viable. Two approaches to long-term debt that might be viable are :

- (1) using a variable rate, as with Russian indexed mortgages, or
- (2) denominating the bond issue in a more stable currency, as with the City of Prague's dollar-denominated bond issue, or indexing a ruble-denominated issue to a more stable currency

- vi. for what term will bonds be issued?

For the near term in Russia, the market may be more of a limiting factor than any policy the city might develop. However, the city will want to avoid issuing debt for longer than the useful life of the improvement to be financed. At the same time, it will want to spread the debt over a long enough period that the payments due in any given year are manageable in light of the anticipated revenues. An important trend in Eastern Europe has been the lengthening of the term of municipal debt issues.

Designing a Bond Issue

In structuring the debt issue, the issuer and its advisors have several choices to make. These choices involve balancing the needs of the issuer with the demands of the capital markets.

i. maturity schedule: term and serial bonds

The maturity of a bond is the date on which the principal amount of the bond becomes due and payable. Most long-term municipal debt is evidenced by term bonds, serial bonds, or a combination of the two.

The principal amount of a **term bond** comes due at maturity, although interest payments may be made annually or semi-annually. The principal payment at maturity is sometimes called a "balloon" payment. A "zero coupon" bond is a term bond in which all of the principal and the interest come due at the maturity date. Term bonds are sometimes combined with a **sinking fund** structure in which regular payments towards principal are deposited in a special fund which is ultimately used to repay bondholders. The use of a sinking fund affects the issuer's debt service in much the same way as a serial bond.

With a **serial bond** issue, a portion of the principal amount comes due each year through the life of the bonds. The date the last payment is made is called the final maturity date. The two most common types of serial bonds are:

- (1) "straight serial" bonds, which have level principal payments (so that debt service decreases over time),
- (2) "serial annuity" bonds, which have level total debt service over time (so that early payments cover primarily interest).

Different investors prefer different types of bonds. An investor who is interested in a steady flow of cash over time would prefer a serial bond, whereas a pension fund or individual investor saving for retirement might prefer a term bond.

Similarly, issuers may prefer different types of bonds. Most revenues available to cities to retire bonds become available over time, so serial bonds are most typical. As discussed earlier, a general principle of good debt management is that money should not be borrowed for longer than the useful life of the investment. Similarly, issuers often prefer to defer all debt repayment until the initial benefits of the infrastructure being financed have been received.

With fixed interest rate bonds, it is possible to know in advance exactly

what principal and interest will be payable when. With variable rate bonds, including those indexed to the consumer price index or central bank rates, there is less certainty in budgeting annual debt service.

ii. early redemption provisions

Issuers sometimes provide in the bond issue for a right to redeem, or "call" some or all of the bonds prior to their final maturity. Sometimes, the bond documents provide that such early redemption can only be done upon payment by the issuer to the bondholder of a redemption premium. When the issuer exercises its right to call the bonds early, it pays off the outstanding principal amount, plus interest accrued to date, and any redemption premium specified in the bond documents.

Issuers like to reserve the right to call, so that if market interest rates drop, they can re-finance their debt at a lower cost. Other things being equal, bondholders prefer to avoid a call provision, since if market interest rates drop they will only be able to re-invest their funds at the lower rate. The market price for bonds with a "call" provision will usually be priced on the basis of their expected yield to the optional call date, rather than their yield to final maturity.

iii. debt service reserve funds

A debt service reserve fund may be established out of the proceeds of the bond issue, or may be funded over time from excess revenues. A typical requirement is that at least one year's debt service be maintained in such a reserve fund. The purpose of such a reserve fund is to provide a means to meet the issuer's debt obligations in a year when current revenues are inadequate.

iv. capitalized interest

Investors expect to earn interest on the money they lend from the date they lend it. Because projects may not generate revenue immediately, there may be a need to pay the interest on the debt for the first year or two using borrowed money. Therefore, depending on the project being financed, and the timing of the revenues that will be used to retire the debt, bond proceeds may be used to pay the interest for a period of time. This is known as "capitalized interest," and increases the size of the bond issue.

v. coverage ratios and the size of the debt issue

A "coverage ratio" is the amount by which the anticipated revenues available to pay for a project exceed the anticipated actual debt service. Because revenue projections are inherently uncertain, the financial markets usually like to see a substantial margin of error. This way, if anticipated revenues are not realized in full, there should still be adequate revenues to cover the debt service. The less certain and stable the revenue sources to be used to repay the debt, the higher the expected coverage ratio.

This is important in determining the size of the planned debt issue. On the demand side, the debt issue must be large enough to cover the project costs and the issuance costs (including the cost of legal and financial

advisors, insurance, printing the bonds, and any capitalized interest). On the supply side, the issue cannot be larger than the available revenues will support.

vi. competitive vs. negotiated bond sale

If an issuer decides to issue bonds, one important choice it must make is whether the issue should be a competitive sale or a negotiated sale.

In a competitive bond sale, the issuer solicits bids for its bonds from several underwriting firms or syndicates. The bonds are sold to the firm or syndicate submitting the bid with the lowest interest cost. In the U.S., two techniques are commonly used to calculate and compare interest cost:

net interest cost: this is the unweighted average interest rate. It is easy to calculate, but has been criticized as not sufficiently reflecting the time value of money.

true interest cost: this is a weighted average interest weight, which gives greater weight to earlier debt payments

Both methods of calculating the interest cost yield the same result where the interest rate is constant. There would be a difference where the interest rate is different for near term payments than for longer term payments.

In a competitive bond sale, the issuer is responsible for determining the term and interest rate on the bonds, preparing the bond documents, obtaining a rating, deciding whether to use bond insurance, and in general for structuring the bond issue. The package is then offered in a competitive bidding process, with the bonds being sold to the underwriter or lender offering the lowest interest cost.

In a negotiated bond sale, an underwriter or lender is selected early in the process, and helps structure the bond issue, including the term, interest rate, and other conditions. The underwriter assists the issuer in all tasks necessary to prepare for the bond sale. The issuer negotiates a purchase price for the bonds with the underwriter at the time the bonds are sold.

The advantages of a competitive process are (1) that open market competition assures the issuer that it has gotten the lowest interest cost, (2) that the gross underwriting spread tends to be lower than with a negotiated sale, and (3) that taxpayers and citizens have greater confidence in an open, transparent process.

The disadvantages of a competitive process are that (1) the issuer has a greater burden to structure the debt issue, (2) the issuer has less flexibility to respond to changing market conditions, and (3) underwriters who have no assurance that they will be awarded the bonds will invest less time and effort in pre-sale activities, and may therefore offer somewhat higher interest costs to cover their risk that they will have difficulty placing the bonds. Without established capital markets, and without a proven history of sound financial management, it may be difficult for Russian issuers to find enough interested

underwriters to make a competitive sale possible.

The advantages of a negotiated sale are (1) that the underwriter can assume most of the burden for structuring the transaction, preparing the documents, and timing the market, (2) that the underwriter can engage in extensive pre-sale marketing to assess the demand for, and promote interest in, the bonds, and (3) that there is greater flexibility to change the structure or timing to respond to the market. In the early stages of the evolution of Russian capital markets, issuers may find it easier to negotiate with a single underwriter, or even a single investor. The disadvantage of a negotiated sale are (1) that the lack of competition may give the appearance that politics or cronyism are at work in determining the terms of the bond issue, rather than the best interests of the city, (2) that because there is no competition, the issuer must make a great effort to become informed about changing market conditions to ensure favorable pricing, and (3) it is difficult for the issuer to know what spread is appropriate to compensate the underwriter.

Marketing and Disclosure

Marketing and disclosure are two sides of the same coin. From a marketing perspective, the issuer is interested in putting its proposed debt issue in the most positive light. From a disclosure perspective, the issuer is required to disclose any risks of which it is aware. Failure to do so can leave the issuer and its officials open to charges of fraud.

i. marketing

The first step in an effective marketing plan is to understand who the likely investors are, and to understand their goals and preferences. As discussed above, investors may be individuals (acting directly or through investment funds) or they may be institutions (banks, insurance companies, and pension funds). International experience is useful if an issuer is contemplating an issue of sufficient size to attract international investors. However, given the evolving nature of Russian capital markets, this experience may be of more limited value in understanding the goals of Russian individual and institutional investors. Surveys, focus groups, and interviews can help issuers and underwriters understand what investors are seeking from a municipal bond issue and what barriers must be overcome. An experienced underwriter or financial advisor can help the issuer to identify potential investors, their goals, and their perceptions of risk.

It is important to accurately understand potential investors' perception of the risks they face in purchasing municipal bonds, so that steps can be taken to address their concerns. See the discussion above of risk and return. Some risks can be eliminated completely if they would make the bonds unmarketable. For example, call risk can be eliminated by avoiding provisions allowing for early redemption of the bonds.

Other risks can be substantially reduced -- for example:

Inflation risk can be addressed by indexing the interest rate to a more stable currency or to an inflation index.

Bond insurance can be used to reduce credit risk, because the ultimate security for the bonds is the credit of the bond insurer rather than the bond issuer.

Debt service reserve funds can be structured into the bond issue, to reduce the issuer's reliance on current revenues to pay the debt service.

Higher coverage ratios provide investors with a higher margin of safety.

Covenants can be incorporated into the bond issue limiting the issuer's ability to issue future debt unless certain financial tests are met.

Many of these approaches limit the risk to investors at the expense of the issuer's flexibility (e.g. restrictive covenants) or at a financial cost (e.g. bond insurance). The key is to understand investors' needs well enough to know which of these measures are worth their cost and which are not.

The underwriter or financial advisor is an important part of marketing efforts, and can help determine the appropriate cost-benefit balance for a given issue and for a given group of investors. Pre-sale presentations can help interest potential investors in a planned debt issue, and answer their questions. Complete, accurate, and easy-to-understand documentation is an essential part of a good marketing effort.

Obtaining a favorable rating from a rating agency may also be an important part of the marketing process.

ii. disclosure

An "official statement" is required of U.S. issuers in conjunction with a bond issue. It is primarily a disclosure document, to advise potential investors of all pertinent information. In public debt markets it plays much the same role as the offering circular or prospectus plays in the corporate securities markets.

In the U.S., the Government Finance Officers Association (GFOA) has prepared a publication entitled "Disclosure Guidelines for State and Local Government Securities." The recommendations in this document are a useful guide for preparing an official statement. Under these guidelines, the official statement should include the following:

- a cover page describing key features of the bonds
- an introduction to the official statement
- a complete description of the bonds
- a description of any credit enhancements (insurance or letter of credit)
- a description of the issuer
- a description of the debt structure
- copies of key documents

F. Functions in a Sound Municipal Credit System

This section provides a brief overview of a sound credit system, drawing heavily from the U.S. municipal credit market system and culture. More specifically, we focus on the bond market, which accounts for the vast majority of municipal debt outstanding at present in the U.S. (see Annex A for a more thorough discussion). Although South Africa will eventually look to a variety of credit systems as models, the U.S. system corresponds to many of the policy orientations of the MIIF, and indeed to the capital finance systems that exist in South Africa. The main objective of this section is to identify the various functions (particularly at the intermediate level between borrower and investor) that help build investor confidence and lend stability to the system.

With approximately \$1.6 trillion of bonds outstanding, and with over 40,000 legally authorized entities that have actually issued bonds, this is the capital market that most state, local and nonprofit educational and health service providers have come to rely upon for infrastructure finance.

A virtually unique feature of the American municipal bond system is that the interest paid to bondholders on such obligations is exempt from federal income taxation. However, this special characteristic and its possibly distorting effects should not lead to the mistaken conclusion that the bond tax exemption is the controlling characteristic of the American regional and local infrastructure finance system. The system predates by many years the existence of the income tax exemption.

All U.S. states and most regional and local general and special-purpose local governmental units and agencies including many very small to medium-sized entities currently enjoy ready access to bonded indebtedness with maturities in the 20- to 30-year range. Whereas the issuer base is very broad, the investor base has narrowed in recent years: commercial banks have virtually withdrawn as investors, leaving individuals (and mutual funds purchased by individuals) and insurance companies as the key investor groups. Individuals a highly risk-averse group have come increasingly to dominate the investor base. With investors demanding and receiving a high degree of comfort that they will receive timely principal and interest payments, a sound municipal credit culture composed of many interacting system elements has developed, including a variety of supporting services and agencies as well as positive characteristics in both the borrower and investor communities. Exhibit 1 summarizes the key functions that contribute to a well-functioning municipal credit system in the U.S.

Beginning at the bottom of Exhibit 1, with the **Subsovereign Borrowers and Issuers** themselves, what are the key managerial and financial practices to which they must adhere in order to contribute to a sound municipal credit culture and system? These include 1) efficient and effective public financial management practices; 2) full disclosure of the financial and other information necessary for investors to make informed buying and selling decisions (and for voters to be able to hold officials accountable for their actions); 3) careful capital project preparation practices; and 4) community consensus-building undergirding

infrastructure project and debt finance decisions.

Exhibit 1

FUNCTIONS IN A SOUND MUNICIPAL CREDIT SYSTEM

ACTOR	FUNCTION	
Investor	Institutional	<ul style="list-style-type: none"> •public offering or private placement, •prefers marketability (liquidity)of bonds, •invests for balance of yield and credit quality
	Individual	<ul style="list-style-type: none"> •invests for high credit quality •public offering •needs marketability (liquidity)of bonds
Supporting agencies and services	Underwriter/placement agent	•marketing, placement, sales
	Credit enhancer (bond insurance, treasury trust, intercept)	•provides assurance to investor in case of default
	Credit rating agency	•objective evaluation of borrower credit worthiness
	Financial intermediary	•pooling
	Legal advisor to borrower	•reviews legal and contractual documents (council resolutions, insurance contract)
	Financial advisor to borrower/Investment banker	<ul style="list-style-type: none"> •early analysis of design •advises as to structure, placement, underwriting •prepares bid documents
Borrower	Regulatory agency (ies)	<ul style="list-style-type: none"> •macro-economic control •reviews financial management statements according to statutory requirements •approves borrowing plans
	Local government or other local service provider	<ul style="list-style-type: none"> •sound financial position •sound financial management practices, •full disclosure of financial and

other relevant information,
•sound project preparation,
•community-supported capital
investment plan (infrastructure plan)

There have been periods during which American investors and lenders lost or it was widely feared they would lose their usual confidence in municipal issuers and borrowers. The Great Depression and its accompanying municipal defaults on outstanding debt led to the development of a variety of **Regulatory** regimes by state governments to control and guide the financial practices of local government, including the use of debt. These state regulatory systems have continued to evolve over time. A more recent period of change in the American municipal capital markets occurred during the mid-1970s, when the City of New York almost defaulted on its general obligation debt. This event led rapidly to vastly increased **disclosure** of financial and other information by all issuers. Further efforts to improve disclosure in both the primary and secondary municipal bond markets continue as this report is being written.

As summarized in Exhibit 1, a variety of other key supporting services and agencies have developed to increase the degree of confidence U.S. lenders or investors can have in the transactions being offered. These include:

Third-Party Professional Financial Advisors who help develop municipal debt transactions from an early stage. Whereas in an earlier era this group was dominated by investment and commercial banks that led-managed the transactions they were helping to structure, this role has increasingly come to be filled by independent specialty firms in more recent years. Third-party professional financial advisors to borrowers and issuers have long played an important role in the early stages of the development of financings, including the exploration of fundamental legal and financial questions, the examination of debt structure alternatives, and the identification of other key professional members of the team of professionals who must help the borrower or issuers successfully close the contemplated transaction. Until recent years in the U.S., the role of financial advisor for these functions was normally played by the securities firm or commercial bank selected by the issuer or borrower. The advisor would lead the transaction itself as direct lender, lead underwriter for a public offering, or placement agent for a private placement. In recent years, however, increasing numbers of firms specializing solely or largely as financial advisors have been able to sell their services as independent agents representing the borrowers or issuers throughout the process of designing and closing the transaction.

Legal Advisors to Issuers who ensure that they are complying with all appropriate legal and regulatory requirements. Legal advisors to issuers (in bond transactions, these actors are typically called "bond counsel") have played vital roles advising borrowers and issuers on such key issues as:

- o legal authorization for the borrowing in this regard, bond counsel have traditionally been relied upon to render opinions respected equally by issuers and investors regarding such authorization;
- o disclosure of material information in all necessary contractual and investor-oriented offering documents; and
- o the protection of the interests of issuers in all contractual documents associated with the transaction.

Financial Market Intermediaries ranging from simple "bond banks," which

achieve economies of scale in transaction costs and sometimes provide credit enhancement for small to medium-sized borrowers and issuers, to "State Revolving Funds." The revolving funds are pooled loan funds initially capitalized with appropriated (grant) funds. They are able to provide interest rate subsidies, a continuing and often growing "corpus," and other benefits, as well. Bond banks and other loan pooling mechanisms provide a variety of important benefits to their underlying borrowers. One of the universal benefits of all properly designed loan pooling mechanisms is that, because the total borrowing is aggregated to sufficient size, fixed transaction costs are spread over a larger number of loans, lowering the all-in costs of borrowing for each borrower. Another more subtle but equally important benefit of well-run pooled loan programs is that, through their standardized application and loan approval procedures, they impose a relatively high level of discipline on the borrowers in such areas as project development, project financial feasibility, project operation and maintenance, and financial management and reporting.

In some cases, measurable subsidies offer substantially more (or at least more tangible) benefits. For example, concessionary interest rates can be included in the resulting loans to localities. If the sovereign credit or even the moral obligation credit of the sponsoring superior governmental level is pledged to the bondholders, this arrangement will often result in a lower interest rate than the small borrower could have achieved on its own. In addition, or alternatively, subsidies in the form of concessionary interest rates can be delivered along with the loan when the initial capitalization comes from appropriated funds and does not have to be paid back to any source. This is the case for state revolving loan funds that provide concessionary interest rates, for example. These benefits are thought necessary or desirable to achieve a policy outcome such as assisting communities with lower taxing power. However, in all other respects, all the pooled-loan financial market intermediation programs cited above are operating with hard credit principles, including vigorous enforcement of timely principal and interest payment requirements and other loan conditions by the bond banks and other pooled-loan program sponsors.

Credit-Rating Agencies, which provide independent, third-party judgments of municipal credit quality to investors. Credit rating agencies have long been important actors in the American municipal bond markets. The major agencies serving this market are Fitch, Moody's Investors Services (Moody's); and Standard and Poor's (S&P). It is possible to think of the rating agencies as "proxies" for investors as they seek out information on the risks and rewards of each bond issue presented for rating (and in some cases evaluate and rate issues not requested for rating by the issuer). With such a diverse issuer base and with such a broad investor market as that characterizing the American municipal infrastructure finance system, it is easy to see why the rating agencies provide institutional and individual investors with important economies of scale in evaluating and comparing the credit quality of bond issues. However, rating agencies can never be perfect or complete proxies for investors and there have been notable failures of rating agencies to keep pace with issuers' rapidly changing financial or legal circumstances. This lag in rating agency changes to current ratings is routinely seen in the secondary municipal bond marketplace itself. In this market, traders routinely "run ahead" of rating agencies in making credit judgments;

their judgments are visible in price differentials and changes in these differentials.

In order to be efficient and effective, credit rating agencies need access to high-quality, current data regarding the entities whose debt issues they are being asked to rate. These data include:

- o demographic and economic data regarding the service area;
- o the elected officials and/or appointed managers and their professional qualifications; and
- o understandable and comparable information on past financial performance, current financial status, and future capital and operating spending plans.

Non-Sovereign Commercial Credit Enhancers, including commercial banks. They provide letters of credit to assist 1) borrowers with self-supporting project financing and 2) municipal bond insurers which have insured and thus provided AA or AAA ratings for 44% of all new long-term municipal bond issues thus far in 1995. A very different kind of non-sovereign credit enhancement used in the U.S. and elsewhere (e.g., Belgium) is the "state aid intercept" mechanism (addressed below, Section 4.2). As the U.S. municipal bond market has grown with all its diversity of issuers and the spectrum of credit quality that diversity implies, the investors cannot be said to have responded with a matching appetite for the same spectrum of credit quality. Overwhelmingly, investors in the U.S. municipal bond market have preferred good to excellent credit quality in making their investment decisions investor demand for AAA- and AA-rated bonds far outstrips the "natural supply" of such bonds. For this fundamental reason, an entire business of **non-sovereign commercial credit enhancement** has developed.

The fundamental principal of such non-sovereign credit enhancement is that some commercial entities such as highly rated banks and insurance companies can perform their own analysis of the risks and rewards of a given transaction and its issuing entity. Based upon their own analysis, such credit enhancers can decide to "sell" their own higher credit rating for a fee to selected lesser-rated entities which they find to be safe risks. Paying this fee can make economic sense for the issuer because the higher credit rating thus achieved on the transaction reduces the issuer's all-in borrowing cost, due to investors' willingness to accept significantly lower interest rates from highly rated issuers.

In the U.S., the municipal bond insurers have come in the last decade to dominate the municipal credit enhancement market to the extent that in 1994, 37 % of all new long-term municipal bond issues carried municipal bond insurance. In 1995, 49% of all long-term issues were insured. Most municipal bond insurance carries a AAA/Aaa rating, although some carries a AA/Aa rating. The concept of municipal bond insurance has now spread to Western Europe, where the American market leader MBIA has now underwritten nearly \$5 billion of municipal bond insurance. We are aware that MBIA and several other U.S. municipal bond insurers are now evaluating other international subsovereign market opportunities outside of Western Europe, some in conjunction with multilateral development finance institutions.

Highly rated commercial bank letters of credit continue to be another regularly used form of credit enhancement, although their use tends to be restricted to stand-alone project financings.

A third and very different form of non-sovereign credit enhancement is used by governments involved in well-established intergovernmental transfer programs. The "state aid intercept" mechanism allowing bondholders preemptive access to intergovernmental transfers in the event of a default is provided as an additional source of comfort. Rating agencies will acknowledge degrees of credit-enhancing power in such arrangements, depending upon the quality of the revenue stream(s) that can be intercepted, the nature and certainty of the default "early warning systems" ("trip-wires") provided for in the systems, the speed with which the actual aid interception would work, and other factors.

Underwriters and Placement Agents, including both securities firms and commercial banks permitted to underwrite certain kinds of municipal securities. The competition among these firms for municipal underwriting and placement services has been so fierce that the average gross underwriters' discount has declined precipitously over the past decade, even as overall volume has increased. Underwriters and placement agents play critical roles in the planning, structuring, sale, and distribution of municipal bonds in the U.S. International, national, and regional securities firms compete fiercely with one another and with an increasing number of commercial banks to manage the underwriting or placement of bonds. One measure of the degree of competitiveness in this business is the size of the gross underwriters' discount (the "spread" by which the firms perform these services). Average spreads have fallen from about 2% of par value to well under 1% in about a decade.

For a variety of reasons, underwriters of municipal bonds have recently been subject to far more regulatory scrutiny and enforcement action than in the past. For instance, recent scandals involving political contributions by securities firms and others to politicians directly or indirectly involved in selecting underwriting firms resulted in new Securities and Exchange Commission regulations that have essentially prohibited firms seeking to do underwriting business with states, regional, and local entities from making political contributions in those jurisdictions. Other abuses of a more technical nature many having to do with the tax exemption and its distorting effects have also recently been alleged and are under intensive investigation as this report is being written.

G. Glossary of Terms

Accrued interest: Interest earned on a security since the later of the most recent coupon payment date (or the dated date) to the settlement date.

Ad valorem tax: A tax based on the value (or assessed value) of property.

Advance refunding: A financing structure under which new bonds are issued to repay an outstanding bond issue prior to its first call date. Generally, the proceeds of the new issue are invested in government securities, which are placed in escrow. The interest and principal repayments on these securities are then used to repay the old issue usually on the first call date.

Assessed valuation: The valuation placed on property for purposes of

taxation.

Basis point: 1/100th of 1%. The difference between a 10.0% annual interest rate and a 10.5% annual interest rate is 50 basis points.

Basis price: The price of a security expressed in yield or percentage of return on the investment.

Balloon: Final, lump-sum payment of unpaid principal at final maturity date.

Bearer bond: A bond that has no identification as to owner. It is presumed to be owned, therefore, by the bearer or the person who holds it. Bearer bonds are freely and easily negotiable since ownership can be quickly transferred from seller to buyer.

Bond: An interest-bearing promise to pay a specified sum of money--the principal amount--due on a specific date.

Bond funds: Registered investment companies whose assets are invested in diversified portfolios of bonds.

Callable bonds: Bonds which are redeemable by the issuer prior to the specified maturity date at a specified price at or above par.

Capital project: A capital project or capital improvement is a major, non-recurring, tangible fixed asset with a useful life of at least one year (usually five years or more). Whether a project is a capital project based on value and life span depends on the size of the jurisdiction and the size of its budget. Projects which smaller cities treat as capital improvements are funded from the operating budget of larger cities.

Coupon: This part of a bond denotes the amount of interest due, and on what date and where the payment is to be made. Bearer coupons are presented to the issuer's designated paying agent or deposited in a commercial bank for collection. In the case of registered coupons (see Registered Bond), the interest payment is mailed directly to the registered holder. Coupons are generally payable semi-annually.

Coupon rate: The annual interest rate, as reflected on an interest coupon.

Current yield: The ratio of interest to the actual market price of the bond stated as a percentage. For example, a \$1,000 bond that pays \$80 per year in interest would have a current yield of 8%.

Debt Limit: The statutory or constitutional maximum debt that an issuer can legally incur.

Debt service: All payments required and necessary to retire the debt obligation including interest and repayment of principal as well as maintaining all reserve and sinking funds (see Sinking Fund).

Default: Failure to pay principal or interest promptly when due.

Denomination: The face amount per value of a security which the issuer promises to pay on the maturity date. Most municipal bonds are issued in a minimum denomination of \$5,000, although a few older issues are available in

\$1,000 denominations. Notes are generally available in a \$5,000 minimum denomination.

Discount: The amount by which the purchase price of a security is less than the principal amount or par value.

Dollar bond: A bond that is quoted and traded in dollar prices rather than in terms of yield.

Double-barreled bond: A bond secured by the pledge of two or more sources of repayment, such as the unlimited taxing power of the issuer as well as revenues generated by a particular user charge.

Double exemption: Securities issued in the United States that are exempt from state as well as federal income taxes are said to have double exemption.

Face amount: The par value (i.e., principal or maturity value) of a security appearing on the face of the instrument.

Floating rate bond: A long-term bond for which the interest rate is adjusted periodically according to a pre-determined formula, based upon specific market indicators.

Future value: The amount of money an investor would receive in the future for money invested today at a given interest rate.

General obligation bond: A bond secured by the pledge of the issuer's full faith, credit, and usually, taxing power.

Industrial development bond: A bond issued by a state, certain agencies or authorities, a local government, or development corporation to finance the construction or purchase of facilities and/or equipment to be leased to a private corporation.

Infrastructure: Public facilities such as streets, bridges, water and sewer systems, jails, schools, and hospitals.

Interest: Compensation paid, or to be paid, for the use of money. Interest is generally expressed as an annual percentage rate.

Issuer: A government, agency or authority which borrows money through the sale of bonds or notes.

Legal opinion: An opinion concerning the validity of a securities issue with respect to statutory authority, constitutionality, procedural conformity and in the U.S. usually the exemption of interest from federal income taxes. The legal opinion is usually rendered by a law firm recognized as specializing in public borrowing, often referred to as bond counsel.

Letter of credit: An irrevocable obligation of a commercial bank to make funds available upon the presentation of certain documents. Such a letter can be used to secure the principal and interest payments on a bond issue.

Level debt service: A maturity schedule for a bond issue, or a group of issues by one issuer, designed so that total interest and principal coming due

in each future year until final maturity is approximately equal.

Limited tax bond: A bond secured by a pledge of a tax or category of taxes limited as to rate or amount.

Long-term debt: Debt with a final maturity a year or more after its issuance, usually evidenced by a **municipal bond**, and used to pay for capital investments.

Marketability: A measure of the ease with which a security can be sold in the secondary market.

Maturity: The date when the principal amount of a security becomes due and payable.

Municipal bond: A long-term obligation of a municipality or other local government issuer.

Non-callable bond: A bond that cannot be called for redemption by the issuer before its specified maturity date.

Notes: Usually short-term promises to pay money, often secured by specified sources of future revenues, such as taxes, federal grants, and/or bond proceeds.

Official statement: A disclosure document prepared by, or for, the issuer that gives detailed security and financial information about the issue.

Original issue discount: A bond issued at a dollar price less than par which qualifies for special treatment under U.S. tax law. Under the U.S. law, the difference between the issue price and par is treated as tax-exempt income rather than a capital gain, if the bonds are held to maturity.

Par value: Also known as face value. The principal amount of a bond or note.
Paying agent: Place where principal and interest are payable. Usually a bank or the office of the treasurer of the issuer.

Present value: The amount of money in hand today that is the equivalent of a future stream of principal and interest payments, at a given discount rate.

Premium: The amount by which the price of a security exceeds its principal amount.

Primary market: Also known as new issue market. The market for new issues of municipal bonds and notes.

Principal: The face amount of a bond, exclusive of interest and payable at maturity.

Put bonds: Long-term bonds which may be sold back to the issuer, at par, on a specified future date or dates prior to maturity. The market tends to price such bonds as if they were coming due on the first resale, or put date, since the investor is assured of receiving par at that time, no matter what has happened to interest rates.

Ratings: Designations used by investors services to give relative

indications of credit quality.

Registered bond: A bond whose owner is registered with the issuer or its agents, either as to both principal and interest or as to principal only. Transfer of ownership can only be accomplished when the securities are properly endorsed by the registered owner.

Revenue bond: A bond payable solely from specified revenues, usually derived from tolls, charges or rents paid by users of the facility constructed with the proceeds of the bond issue.

Secondary market: Market for issues previously offered or sold.

Serial issue: An issue that has maturities scheduled annually or, in some cases semi-annually over a period of years.

Sinking fund: A fund accumulated by an issuer over a period of time to be used for debt service.

Short-term debt: Debt which must be paid within a year of the date it is incurred, usually evidenced by a **note**, and used to cover operating expenses until anticipated revenues are received.

Special tax bond: A bond secured by a special tax, such as a gasoline tax.

Swap: Simply, the sale of a block of bonds and the purchase of another block of similar market value. Swaps may be made to achieve many goals, including establishing a tax loss, upgrading credit quality, and extending or shortening maturity.

Syndicate: A group of underwriters who buy a new issue from the issuer and offer it for resale to the general public.

Tax base: The total property and resources of an issuer which are subject to taxation.

Tax-exempt bond: The interest on municipal bonds in the U.S. is generally exempt from federal income tax under present law.

Term issue: An issue that has a single stated maturity.

Trustee: A bank designated by the issuer as a custodian of funds and official representative of bondholders. Trustees ensure compliance with the bond contract.

Underwrite: To purchase a bond or note issue from the issuing body to resell it to the general public.

Unit investment trust: A fixed portfolio of bonds sold in fractional undivided shares (usually \$1,000 each)

Unlimited tax bond: A bond secured by a pledge of taxes that is not limited by rate or amount.

Yield to call: The rate of return earned by an investor from the time of purchase to the call (early redemption) date, assuming the bonds are redeemed

in accordance with their call provisions.

Yield to maturity: The rate of return earned by an investor from the time of purchase to the maturity date, assuming the bond is held to maturity and that all interest received over the life of the security can be reinvested at the yield to maturity.

Zero coupon bond: A bond with no periodic interest payments. The investor receives one payment at maturity. The maturity value an investor receives is equal to the principal invested plus interest earned, usually compounded semi-annually at the original interest rate.

IV. Infrastructure Finance

A. Overview and Experience in Russia and Eastern Europe

One of the main characteristics of public finance in western market economies is that almost all local governments borrow for infrastructure investments. In these countries, the long term credit system has developed to support local debt financing. The systems differ somewhat in different countries and may involve the use of loans from specialized banks (or funds) as well issuing bonds directly in the private capital markets.

Interest in debt financing among cities in Russia is high. Many cities recognize that traditional sources of funding for capital projects -- especially funding from the national budget -- have dried up. At the same time, local infrastructure is deteriorating. This leads local government officials to consider borrowing money for major capital infrastructure such as water and sewer projects, roads, bridges, parks, schools, housing, and hospitals. If such investments are made wisely, economic development can lead to growing revenues, and those revenues used to repay debt.

In the U.S., cities borrow a lot of money. On the average, at any given time, U.S. cities owe about \$10,000 per family. Sales of bonds and other long-term debt have historically accounted for 50-60% of the funds needed for state and local capital projects in the U.S.

There are two major types of local debt.

- General Obligation bonds are backed by the general taxing authority of the borrowing government and therefore are said to be backed by the full faith and credit of the issuer. Because the borrowed money must be repaid with tax dollars, voters must usually approve this type of bond issue in a referendum. General obligation bonds are used to fund projects that serve an overall economic or social purpose, promote the tax base, or serve some other general local benefit (e.g. parks, street, schools, libraries).
- Revenue Bonds are more restricted and are backed by a specified revenue source -- in most cases the user fees that the new capital investment will generate. Since revenue bonds have limited backing, the issuer generally has to pay a higher interest rate than for similarly rated general obligation bonds. Revenue bonds are used only when a charge is appropriate and a project's revenues are sufficiently large and predictable to meet all debt service requirements (e.g. water or sewer infrastructure).

Debt finance in Russia of any kind faces serious obstacles. Among them are

- the legal and policy framework in Russia for local government debt is generally lacking or unclear;
- there are relatively few local lenders interested in long-term finance, and little objective data on which lenders might make meaningful decisions
- there is some reluctance to burden future generations with the cost

of infrastructure built today

- inflation continues to complicate long-term debt.

For many of the countries in the former Soviet Union, few apparent restrictions have been placed on local governments in the contracting of loans and issuance of bonds, other than general financial regulations. However, in order for local governments to make use of debt, there must exist a financial sector with the capital and the willingness to lend to local governments, or a capital market (domestic or international) ready to invest in bonds. Only the largest cities are reasonable candidates to borrow on the international markets. Smaller cities will have to rely on domestic sources of credit.

The preconditions for the domestic credit markets are already being established in many countries. These developments include the creation of Central Banks, the separation of state-owned banks from the Central Banks, establishment of viable banking practices and procedures, recapitalization of the state-owned and privatized banks, and reduction of non-performing loan portfolios. The rapidity with which banks can improve their financial position will depend to a great extent on the pace of overall economic restructuring, as the non-performing loan portfolios are largely due to the bankruptcy of many of the large state-owned industrial enterprises.

In addition to restructuring of the existing banks, modernization of the banking and financial sector includes the establishment of private banks, the creation of capital markets and exchanges (i.e., stock, options, over-the-counter). As these new entities affirm their position in the financial sector, they may eventually broaden the access of local governments to investment capital.

Nevertheless, in the short to medium term, the establishment of a more viable banking sector does not automatically ensure that local governments will have access to funds for financing city and public utility infrastructure. The banks will need to familiarize themselves with the newly created local governments, understand their budgetary bases and financial condition and evaluate the risks of lending. This process may be difficult as the types of resources and the means of sharing fiscal revenues between Central Government and local governments have not yet stabilized in all the countries.

Financing city infrastructure is not necessarily a priority either of the Central Government or of the banks. Available funds in the financial sector have since 1989-90 served primarily to finance the Central Governments budget deficits (except for the Czech Republic) and second to financially prop up state-owned enterprises and to support new private-sector enterprises. A third destination of available funds will increasingly go towards to households, particularly to finance housing. Thus, in the attempt to raise funds to finance investment, local governments must compete with other sectors of the economy.

Looking at current experience in Eastern Europe and the former Soviet Union, there are four main types of credit available to city governments today:

1. Short or medium term loans at market rates from commercial banks;
2. Medium term loans at market rates from special purpose municipal

banks;

3. Medium term loans at subsidized rates from State Environmental Funds; and
4. Local government bonds for short and medium term periods.

Most of the borrowing that has taken place so far in Eastern Europe has fallen into the first and the third categories. There is very little borrowing from special purpose municipal banks and very little use of municipal bonds.

Overall, the most extensive use of credit is made by city governments in Eastern Europe and that usually does not amount to more than 5% of total local revenues (see Table 1).

Table 1: City Investment and Credit Financing in Each of the Four Countries

	Czech Republic	Hungary	Poland	Slovak Republic
Investment as % of total expend.	35 percent (1993)	18 percent (1992)	25 percent (1993)	20 percent (1993 estimate)
Borrowing as % of total investment.	6.6 percent (1993)	10 to 15 percent (MOF estimate, in general)	3 percent (1993)	30 percent (1993 estimate)

Source: Urban Institute, 1994

The Czech and Slovak Republics have made the greatest use of bonds in Eastern Europe with one major issue on the international capital market for the city of Prague and several smaller issues for other cities on the domestic market. The city of Prague issued a US\$ 250 million bond directly on the London market in early 1994 with a 5 year term and a 7.75 % annual interest rate. The smaller city bond issues in the Czech Republic have been for 5 to 7 years in term and carried fixed interest rates of between 14.25% and 18%.

Russia has a somewhat developed bond system, mainly as the result of federal government issues on the domestic market. City and provincial governments are racing into the Russian market now with bond issues as a means of covering annual budget deficits. These deficits are caused by the decline in the local share of regulating revenues shared with higher levels of government (the VAT, personal income tax and corporate income tax.) Such debt is, in effect, borrowing from the future to meet the desperate financial needs of the present.

Some Russian cities are also trying to pledge city assets to back the bonds, much as the Slovak cities do to secure bank loans. Moscow City Government is proposing to issue a "convertible" bond which can be redeemed as shares in city owned enterprises. There are many other instances where city governments are using city property as collateral for bank loans but the proposed approach by Moscow City Government is very creative. Unfortunately, it is also risky for several reasons:

1. The funds will be used to cover operating deficits in the city annual budget. This means that the scheme is really a means of converting long term assets of the city into current expenditures rather than building up the capital base (infrastructure) of the city. This is not prudent public finance policy - once the asset base has been sold off, how will operating deficits be covered in the future?
2. By using the bond proceeds to covering the operating deficit, the city will not generate sufficient cash flow from operating revenues to cover debt service on the bonds. This means that the repayment will have to come from the enterprises being held as collateral - i.e., net revenues from those enterprises, rather than being reinvested within the enterprises, will be used to service the bond debt. This will almost certainly result in a decline in productivity of those enterprises and a drop in their market value since the capital stock of those enterprises is being used up and not replaced.
3. It is difficult to protect the rights of bondholders under the proposed scheme. As noted in the preceding paragraph, it is highly likely that the city will not be able to service the debt from operating revenues and that the value of the assets will be run down to generate cash. Although the scheme seeks to protect the investors by making bond conversion at the option of the investor, this cannot be guaranteed - indeed, as noted above, it is likely that bond holders will be forced to accept shares in lieu of repayment.

A simpler approach would be to privatize the city-owned companies and properties, and use the proceeds of the assets sale to capitalize an investment fund for city infrastructure. The fund could operate as a straight revolving fund, using only the capital contributed from the privatization. Alternatively, the fund might be able to leverage its capital by issuing bonds backed by that capital⁴. The advantage of this approach over the proposed convertible bond issue is that the value of assets that would have to be pledged or liquidated should be smaller. That is, under the convertible bond issue approach, the value of assets pledged will likely be much greater than one to one and could be as high as 2 or 3 to one. The alternative revolving fund would be capitalized to the amount of the asset sale, or one to one. If any leveraging were applied, then the ratio of funds available would be greater than one to one. The revolving model is also fairly simple to administer and avoids, for the most part, the institutional complexities of the convertible bond issue.

B. How to Develop a Credit System

Over the next decade, some form of local credit structure will have to be established in every country of the former Soviet Union. These new structures must address both sides of the credit system: the users (borrowers) and the

This is the structure utilized by many of the State Revolving Funds in the USA which leverage state and Federal grant funds by issuing bonds in the private capital markets. Such leverage produces up to 3 times the amount of the initial capital which is held in reserve accounts to back the bonds.

suppliers (lenders and bondholders). Both sides need to be developed in order to have a sound system. At present, the suppliers of credit are not well organized to serve local governments. Furthermore, most local governments are not ready to be good borrowers.

Developing the Supply of Local Credit

Local credit systems can develop along 2 lines with some variations in each:

1. Loans to local governments through the banking sector or a specialized institution; and
2. Issuing bonds on the private capital markets.

Borrowing directly by issuing bonds has several advantages for cities:

- If the local government or enterprise is perceived as a good credit risk -- is perceived as a good investment -- it can be the least expensive form of credit in that it avoids some intermediary charges, although other costs associated with bond issuance could offset this advantage (see disadvantages below);
- In a well-developed capital market, the issuing local government has access to funds from a broad and deep pool of savers/investors, making it more likely that the issuing local government can choose the timing of the issue without regard to the particular portfolio investment needs of specific lenders; i.e., the issuing local government is not as dependent on a small subset of potential lenders/investors;

There also can be several disadvantages to local governments trying to issue bonds.

If the local issuing government is not perceived as a good credit risk, a common constraint to local governments who have never borrowed before, the local government probably cannot get a loan or sell their bonds, or may be only able to attract investors at a premium well above commercial borrowing rates;⁵

If the capital market is not both broad and deep, a sufficient pool of investment capital is unlikely to be available for the large, long-term financing requirements of major infrastructure projects.

A typical local government bond issue includes several costs or fees to the borrower besides the market rate of interest the issuer can obtain;

If an underwriter is engaged, they will charge a fee usually as 50 to 100 basis points (one-half to one percent) on the issue;

Independent bond attorneys typically must be engaged, for a fee, to give a legal opinion on the statutory or constitutional authority of the issuing

⁵ This is the counterpart to the advantage central governments have in access to credit in that they often, except in the case of a severely indebted country, are perceived as a better credit risk and therefore have access to better commercial terms.

local institution to incur debt;

Bond insurance may be a cost, usually priced at 30 to 40 basis points;⁶

The development of city bond systems is not well developed throughout the former Soviet bloc, owing mainly to lack of development in the private capital markets within the region. While bonds may be issued directly on the international capital market, that requires repayment in foreign currency and a great deal of confidence on the part of bond buyers. So far, only the Prague bond issue has been floated on the international capital market.

The ability to issue long-term bonds to finance capital projects in the present monetary and fiscal situation is restricted by conditions outside the control of local governments. The high inflation rate which translates into even higher interest rates, the shortage of long-term capital funds in the market place, and the inability to charge fees for utility services in order to recover operating and finance costs make it most difficult at present to issue a substantial amount of city bonds. Hopefully, these inhibiting circumstances will change as the monetary position stabilizes and a market economy takes hold, which will reduce interest rates and make longer-term capital available.

C. Developing the City's Capacity to Borrow

While most city governments may not have the ability to borrow today, they should start laying the foundation for sound debt management. The main objective is to establish creditworthiness - to demonstrate to potential lenders and bond buyers that the city government can manage its finances and can generate the income needed to repay any debt incurred.

The main criterion in the eyes of lenders and investors is not the strength of the economy or the quality of the projects to be financed (although these are important) - the main criteria is the confidence that the borrower can and will repay the debt. Many small towns in the USA with limited economic bases have demonstrated creditworthiness and therefore have ready access to credit at the lowest rates possible. Conversely, many large USA cities have poor credit histories and have to pay much higher rates to issue bonds.

In approaching the question of city debt capacity, both the borrowers and lenders must be concerned with the source(s) of repayment and security to back the debt. There are four types of security which cities have to cover their borrowing:

- Revenues from projects financed with the loan;
- General fund revenues of the city;
- Tangible assets purchased with the loan; and
- Central government transfers to the city.

Three of these are future-revenue items; one is a tangible-assets item. This underscores the fact that cities normally do not have physical assets which can be used as collateral for loans. Many city assets, such as water systems, would have no buyers if they could be sold. Some saleable assets, such as

This could be listed as an advantage as well as a disadvantage. For a city with a low credit rating, the cost of bond insurance, which gives the city access to credit at the lowest commercial cost, is likely to be more than offset by the interest savings. For a city with a very good credit rating, bond insurance does not yield any benefit.

city land, may be prohibited from being sold by statute. Only in the case where the loan is used to purchase physical assets (land, buildings, vehicles) is there much chance that the assets can be used to secure the loan.

The other three types of security are future revenue expectations. Future revenue expectations from revenue producing projects are risky for several reasons:

- The project may not start producing revenue on schedule if there are construction delays;

- The gross revenues may not be as large as projected if the customers of the project do not participate as expected;

- The operating expenditures may be higher than anticipated, lowering the net revenues.

Because of the risk of assuming a revenue flow from a single revenue-producing project, many lenders want loans secured with both project revenues and general fund revenues. In this case, the key to debt-capacity analysis is the ability to project future general fund revenues. Furthermore, since city governments have fixed expenditure obligations (current operating expenditures made up largely of personnel costs), we must be concerned with, not total revenues of the city but rather with net revenues - i.e., those revenues that are available after the fixed expenditures of the local governments are met.

Projecting general fund net revenues requires the ability to project both revenue and expenditures of the local government. The main concern is to determine how much can be devoted to future debt service.

A problem with using simple projections is that expenditures tend to follow revenues. That is, city governments tend to adjust their current expenditures to match current revenues available. Therefore, projecting future net revenue on the basis of past performance will often show no net revenue available in the projections. One way around this problem is to base future expenditure projections not on past trends but rather on different assumptions about future growth. For example, the borrower could agree to keep current expenditures to a set percentage of the total revenue growth.

In addition to examining future revenues as collateral for city loans, we must also look to intergovernmental grants and shared taxes. Although many central governments could use such transfers as collateral for city loans, it appears that few actively use this option. Jordan has gone the farthest in this regard by having the lending agency (the Cities and Villages Development Bank) actually handle the central government transfers, taking out the loan payments before the balance of the transfer is passed on to each local government. This approach provides maximum security to the lender, assuming that the amount of the transfers is greater than the debt service.

Such a system works well only when the allocation of central government grants is relatively predictable and there is a direct linkage between the loan fund and the grant distribution. Such a linkage presents problems of a new sort. If the grant system and loan fund are seen as one and the same, then city officials are apt to view the loan fund as another form of free money and not take seriously the obligation to repay.

Risk versus Return

Investors buy, hold, and sell municipal bonds and other investments in order

to earn returns on them. Investors want to earn returns as high as possible but this objective must be weighed against constraints, primarily risk. There are many different types of risk to be considered but all involve the chance that the actual return on an investment will be less than the expected return. Among key risks are the following:

- interest rate (market) risk: risk that the actual return on a bond will be less than anticipated due to changes in the overall level of interest rates
- inflation risk: the risk that the purchasing power of invested currency will decline
- credit risk: risk that the credit quality of the issuer will fall
- call risk: a risk associated with bond issues that have early redemption provisions
- liquidity risk: the risk that secondary markets do not permit sale rapidly and without significant price concession
- political risk: the risk of political changes that jeopardize the ability of the borrower to pay.

It is important to remember that risk and return go together. An investor seeking high returns is willing to incur higher risk and vice-versa. This means that a certain rate of return is required to induce an investor to purchase a given security. The bond of a Russian city may be seen as carrying significant risk and investors may seek a premium to compensate them for the risk assumed. Ultimately, the interest rate that a city must pay on its bonds to attract investors is a function of the marketplace. Like the price of other things, the price of money is controlled by the principles of supply and demand.

In the U.S., most municipal bonds are rated by one of several rating agencies, which examine both the project to be financed and the debt management capacity of the local government. The rating is basically a score that represents the likelihood that the local government will repay the debt on schedule. The rating is important because it determines the interest rate that the issuer will have to pay. In other words, it is a reflection of risk.

Analysis of Debt Capacity

The preceding discussion leads one to ask how to determine the debt-carrying capacity of a city. In many countries, there is a ceiling placed on the amount of debt a local government may carry. In addition to legal limitation, however, there are some techniques for assessing how much debt a local government can reasonably handle.

First, we should emphasize that there are no hard rules for establishing a precise debt limit. This analysis requires a considerable amount of judgment, informed by rigorous analysis of key data.

In examining debt-carrying capacity of local government, we are purposefully avoiding the more traditional financial analysis measures of debt-to-equity

comparisons. We find that such measures are fraught with measurement problems and do not address the real issue. The real issue is that local government must generate revenues from taxing authority or other revenue sources, not from physical assets of the local government, to repay the loan. The analysis of debt-carrying capacity requires that we put together several types of analyses. First, we need to examine the way in which the debt will be used. If it is for a capital investment, we need to know:

- What are the expected operation and maintenance costs in future years?
- What is the amount of debt payment? When will repayment begin and for how many years?
- Will the investment generate any revenues? How much can be expected annually and when will the revenue flow begin?
- How will inflation affect these estimates?

Answers to these questions will enable us to adjust revenue and expenditure projections in the future to account for the financial impact of the specific investment. If the investment produces revenues as well as expenditures, we are concerned with the NET impact -- i.e., the difference between costs and revenues of the investment project.

The other side of the coin is the capacity of the local government to deal with the impact of the debt. To examine this question, we need to perform a financial balance analysis where the ranges of alternative revenue and expenditure projections were analyzed. We are particularly interested in two aspects:

1. The amount that local revenues will have to be increased to cover the net costs of the investment (debt payment plus O&M costs less revenues generated)
2. Assuming some potential for raising local revenues in general, how much of the estimated revenue potential would be consumed by the net cost of the investment.

We are concerned here with the year-to-year impact on financial balance (often referred to as cash flow impact), not just the total impact over the life of the debt/investment. A hypothetical investment is shown in the table below. The expected costs and revenues generated by the investment are listed.

The table shows, first of all, projected local revenues using a simple trend line projection based on the historic data. The table also shows the costs and revenues of the investment as well as the net costs for each year.

The table also shows the percentage that the projected local revenues would have to be increased in each of the four years to cover the net costs of the investment. We note that this percentage is quite large, particularly since it represents an amount in addition to an underlying rate of growth in revenues of about 13 percent a year (the growth rate calculated in our trend line projection).

The table also shows the additional revenue that we estimate could be collected if the city improved its revenue collections. The reader should

keep in mind that the revenue potential target used is fairly conservative, assuming that only half of the computed revenue potential will be achieved over a four-year period.

The table shows the cumulative revenue potential and the cumulative net costs of the investment. Comparing the two, we see that it will take three years of meeting the revenue increase targets before the cumulative net costs of the investment are matched. This means that it would be three years before the costs of the investment can be offset by improved revenue collections.

Local officials can use this type of information in several ways. First, officials can use the analysis to weight the burden of the proposed investment. The analysis indicates that the investment will consume virtually all of the revenue increases that the city could expect to achieve over the first three years of a concerted drive to improve collections. The question to the city officials is, do they want to commit all of their potential revenue improvements to that single investment?

Second, the net costs of the investment will throw the city into a budget deficit unless revenues increase substantially, i.e., at a rate considerably above the already projected 13 percent per year. The analysis shows that local revenues will have to rise from the projected baseline about 20 percent in the first year, 26 percent in the second, and 10 percent in subsequent years. Even though the potential for revenue increases appears to be substantial, the fact is that these increases are speculative at this point. The local officials cannot be certain that such improvements can be realized. Do they want to take such a risk on an untested assumption?

**Impact of Investment on
Local Revenues**

	1982	1983	1984	1985
A. Local Revenue Baseline Projection	263,959	277,157	291,015	305,566
Investment Impact				
B. Costs: Loan payment and maintenance	50,000	100,000	100,000	100,000
C. Revenues generated	0.00	30,000	70,000	70,000
D. Net cost (B-C)	-50,000	-70,000	-30,000	-30,000
E. Net costs as percentage of local revenue (D/A)	18.9%	25.3%	10.3%	9.8%
F. Additional revenues that could be collected as a result of improved collection.	27,085	61,439	95,793	130,147
G. Cumulative net cost of investment (from line D)	-50,000	-120,000	-150,000	-180,000
H. Cumulative additional revenues from revenue potential	27,085	88,524	184,317	314,464

Third, even with great improvement in revenue collection, it is clear that the proposed loan repayment schedule would leave the city with a budget deficit in the first two years. This suggests that the local officials may want to negotiate lower loan payments at the outset, or a several years grace period.

Finally, the local officials may wish to reconsider the size of the investment. The net costs are quite high because revenues generated by the investment will not recover the recurrent costs. The city may wish to reduce the net costs by reducing the size of the investment or by increasing the revenues generated by the investment.

For example, if the investment is to generate user charges, such as a water system or city market, the rate structure may need to be revised. Indeed, the local officials may use the information in our analysis to set a ceiling amount for the size of deficit to be subsidized by public funds. For example, they may decide that the subsidy amount for the particular investment should not exceed 30 percent of the potential revenue increase; the rest would have to be recovered from user charges. From the standpoint of the lending agency, the analysis raises several questions as well. First, the lender must be concerned that the debt service requirements represent such a burden on local revenues. Given the city's relatively poor performance in the past, this should raise serious doubts about the chances for repayment. Indeed, as the local officials may adopt a ceiling on the subsidy to be provided, the lending agency may wish to set its own limitations as well.

Second, since the ability to repay the loan is predicated on substantial revenue increases, the lending agency may want to see proof that the local government can indeed raise more revenue. This suggests that the lending agency may want to defer the loan for one year while it sees if the city can improve its revenue performance in line with its targets. This deferral would have two attributes: (1) it would give the city time to demonstrate improvement in revenue generation and (2) it would allow the city to generate a surplus that could be used to decrease the amount borrowed for the investment.

V. Preparation for Issuing Revenue Bonds

A. Steps in Preparation For Issuance of a Municipal Bond

Identify the objectives and uses of the bond issue

Revenue bond financing is used primarily to fund specific capital investments in infrastructure and services whose development requires larger sums of money than can be budgeted out of current revenues.

Key questions:

1. What are specific infrastructure segments that need to be financed?
2. How does the planned investment fit with strategic and other plans?
3. What engineering studies and analyses are required to verify project feasibility?
4. Have financing alternatives been considered?

2. Conduct preliminary financial and technical analysis

Financial and technical analysis is an integral part of capital investment planning and is a necessary step in the process of determining fiscal impacts and the financial feasibility of specific projects.

Key questions:

1. What are costs and benefits of proposed projects/investments?
2. Can the projects produce sufficient revenues on which financing can be structured?
3. Is the project technically feasible within the planned investment parameters?

3. Identify potential repayment sources and conduct credit (cash flow) analysis

The strength and reliability of the source of repayment are the primary criteria in appraising the credit risk of a revenue bond.

Key questions:

1. How will bond financing affect the general budget?
2. What is the projected debt coverage ratio?
3. Are tariff levels sufficient to support carrying the debt to be incurred?
4. What are credit analysis findings regarding the vitality of the issuer's economic base, potential revenue sources, and debt structure?

4. Verify project fit with strategic plans

Strategic and comprehensive planning should provide the framework for considering any major investment initiative. On the basis of the analyses above, a careful review of the project should be made to make a final decision to go ahead.

Key questions:

1. Is the project consistent with the issuer's mission and strategic objectives?
2. Is there strong management and, if necessary, political commitment to the project and method of financing?
3. What are potential risks or opportunity costs of the project in light of other planning objectives?

5. Define management and organizational arrangements to complete bond offering

The dual tasks of managing project start-up and the revenue bond offering will require clear management and organizational arrangements to assure the leadership and authority to see these initiatives through to successful completion.

Key questions:

1. What will be the management structure for the project? For the bond offering?
2. What decision authority will be delegated to these managers?
3. Who will be the overall coordinator of bond issue implementation?
4. How will the formal resolution of the issuer administration to issue bonds be framed and enacted?
5. What ordinances and approvals are required?

6. Perform pre-marketing activities

Several pre-marketing activities can begin at this point. These include assembling needed information for the future prospectus, defining underwriting and other agency agreement needs (trustee, registrar, guarantor, etc.), and considering the domestic investment market.

Key questions:

1. Who are the target investors or institutions?
2. What prospectus information needs to be assembled?
3. Will underwriter selection be competed or negotiated? What are the criteria for selection?
4. What advisory and other agency services will be required (e.g.

- bond counsel, insurer, financial service providers, etc.)?
5. Will a rating agency be involved? If so, what presentations are required?

7. Analyze financial markets

With the utilization of revenue bond financing established as an effective financial mechanism, the next step is to review and assess current economic conditions to determine whether or not revenue bonds can be marketed successfully and what provisions in terms of maturities, interest rates, and security will be required to attract buyers.

Key questions:

1. Is there a demand for bonds (individuals, enterprises, financial institutions)?
2. What are comparative interest rates?
3. What is the availability of long-term capital?
4. What are credit guarantee requirements?

8. Finalize bond design, structure, terms, and conditions and conclude Bond Agency agreements

The design of specific bond issues is determined by the objectives and uses the issuer desires to achieve but is constrained by what the investment market will finance and the terms it requires. In designing, implementing, marketing, and administering the bond issue, the issuer will need to seek advisory and administrative services over and above normal staff functions. There also are functions whose performance requires an independent party in order to protect both the bondholder and issuer.

Key questions:

1. How large is the issue and can this level of financing be comfortably serviced?
2. What will be the interest rate?
3. What will be the maturity and amortization schedule?
4. What is the bond form: denomination, interest coupon period, annual maturities, call features, etc.?
5. What bond security will be provided (specification of revenue source(s) to be pledged, indenture agreement that pledges these revenues and sets up a reserve account)?
6. What sources of funds will be used for repayment?
7. What are the stipulations, terms, and conditions?
8. What guarantees will be provided?
9. What fees will be levied for services?

9. Finalize marketing program

Before a bond issue can succeed, the concept of revenue bonds must be introduced and it will be necessary to convince the public (or institutional investors managing their resources) that these financial instruments are safe and that they offer an attractive investment opportunity.

Key questions:

1. Who are the target investors and institutions?
2. How will the bond issue be announced?
3. How will the bond issue be advertised and promoted?
4. How will buyers be attracted?

10. Issue the prospectus and sell the bonds

The prospectus is the official statement from the issuer which contains the information the prospective buyer requires in order to make an informed decision to purchase a specific bond.

Key questions:

1. Who will prepare the final prospectus (disclosure document)?
2. How will final bond pricing be determined?
3. How will actual bond sale be administered?

B. Management Plan Guidelines for Utilities Preparing to Issue Revenue Bonds

Primary uses of the Management Plan

The Management Plan exists primarily as a guide to management for actions necessary to support and prepare for the bond offering. However, the existence of a realistic plan also sends a message to prospective investors or other external parties that the issuer is results oriented and does indeed have a roadmap to its objectives.

Specifically, the management plan serves the following primary uses:

1. It enables the issuer to set and articulate clear objectives for the investment project and related financing;
2. It provides a framework for necessary management decisions and actions to achieve those objectives;
3. It communicates a business-like approach to external stakeholders, especially potential investors; and
4. It provides a basis for effective performance measurement.

Components of a Management Plan

In general terms, a Management Plan should contain the following elements:

1. A description of the strategic planning context, particularly the status of Capital Investment Plans;
2. A clear statement of the objectives toward which the Management Plan is directed. In the case of issuers preparing to issue bonds, the objectives should encompass key milestones on the way to successfully completing a prospectus and marketing the bonds.
3. A timetable that reflects a critical path of necessary decisions and actions to achieve those objectives;
4. Clear delineation of who is responsible for achievement of objectives and for specific decisions and actions; and
5. Specification of what additional information needs to be gathered and analyzed to support accomplishment of the plan. In the case of the bond issuance task, gathering and processing information for presentation to investors in the prospectus is, of itself, a major aspect of preparation.
6. A description of how progress will be monitored and by whom (performance monitoring).

Preparation of the Management Plan

A key manager should be formally designated as Bond Issue Coordinator in charge of spearheading the actions necessary for a successful issue. This manager will be not only a coordinator of management plan implementation but also a champion for the bond issue within the bureaucracy. This manager should have sufficient executive authority to move the issue forward.

At the same time, it is important to generate "ownership" of and commitment to the objectives of the plan and the steps that need to be taken to achieve them across a broad segment of issuer staff with relevant responsibilities. Therefore the process of plan development should be as participatory as possible. Operating personnel, first line supervisors, mid-level managers, and senior management all should be involved in the process.

First, all the above should understand and agree on the objectives, including the timetable for their achievement. This may require various meetings of staff to discuss the objectives and assure that everyone is prepared to support them.

Second, the ideas of as many staff as possible should be included in the process of deciding how to accomplish the steps necessary to achieve the objectives. Often a team approach to key tasks can help build support and contribute to effective and timely implementation, especially if the

teams have been involved in the planning process.

Parts of the planning process may be delegated to particular work groups but there should be a manager or management team responsible for bringing the elements together into a coherent and realistic overall plan of action.

If external assistance is needed to complete the plan, then these needs should be noted early and sources of support identified. There may also be benefit in sharing planning ideas among issuers for review and feedback.

Planning for the bond offering should be used as an occasion to review the issuer's mission, strategy, and overall planning framework as well as its organizational capacity.

Management Work Plan for Revenue Bond Issuance

Action	Timetable	Responsibility	Information Req.
Name Bond Issue Coordinator			
Document objectives and uses of bond issue (link to strategic plan)			
Identify and engage source(s) of financial and procedural advice			
Conduct project technical and engineering studies			
Complete financial analysis (cost-benefit studies)			
Conduct credit analysis and identify revenue streams for repayment			
Confirm project feasibility and fit with Strategic Plan			
Identify prospectus information requirements			
Assemble prospectus information			
Analyze financial markets			
Determine bond structure, terms, conditions, and legal authority			
Select and negotiate with underwriter			
Select and negotiate with guarantor (credit enhancement)			
Select and contract with financial institution to serve as bond trustee			
Identify target investors			
Finalize marketing program			
Finalize prospectus			
Administer bond sale			

C. Creating Local Financing Proposals

These exercises are intended to allow the participants to put some of the principles they have learned to use, by developing a draft financing proposal.

STEP 1: IDENTIFY THE PROPOSED INVESTMENT.

Q: What capital need does your city have that you would like to consider for municipal bond financing?

List some possibilities:

STEP 2: IDENTIFY THE CAPITAL NEEDS.

Q: What will the proposed project(s) cost?

Q: When will this money be needed?

Q: For how long will the money be needed?

STEP 3: IDENTIFY THE REVENUE POSSIBILITIES.

Q: Where will we get the money to repay the bonds?

Q: Does this project have the potential to generate revenues? How?

FOR REVENUE-GENERATING PROJECTS:

Q: How much can the city reasonably charge?

Q: When will the revenue be generated?

FOR PROJECTS WHICH DO NOT GENERATE REVENUE:

Q: How much of its annual revenue can the city pledge to retire the bonds?

In currency:

As a percent of total revenues:

STEP 4: SET AN INTEREST RATE:

Q: Who are the likely investors? Who has this kind of money to invest? Where are they investing their money now? What rate of interest are they earning on their money now?

Q: What are the risks to lenders associated with these municipal bonds?

Q: How risky are the potential investors' current investments compared to these municipal bonds?

Q: What are the possible ways of dealing with inflation?

Q: If we were to index the bonds, what index should we use?

Q: What is a reasonable rate of real interest?

STEP 5: CALCULATE THE DEBT SERVICE:

Example 1 (a zero-coupon bond):

For one dollar compounded at k percent for n periods, the principal and interest payment at the end of n periods will be $(1+k)^n$. For x dollars, the payment will be $x(1+k)^n$.

So, if \$100,000 would be borrowed for two years at 10% interest, and then repaid at the end of two years with interest, the amount due at the end of two years would be $\$100,000 (1.10)^2 = \$121,000$.

The future value interest factors ($FVIF_{k,n}$) for one dollar compounded at k percent for n periods, shown on Table 1 can be used to compute the payment for other interest rates and other time periods. A municipal bond with all of the interest paid at the end is sometimes called a "zero coupon" bond. This is because interest payments during the life of the bond are usually represented by a detachable coupon, and with no interest payments during the life of the bond, there are no coupons.

Example 2 (a bond with periodic payments):

A more typical municipal bond has roughly even payments of principal and interest over the life of the bond. To find the equal annual payment required to amortize a loan for x amount, divide x by the $PVIFA_{k,n}$ shown on Table 4.

So, if \$100,000 were borrowed for ten years at 10% annual interest rate:

the $PVIFA_{k,n}$ would be 6.14456691, rounded to 6.145, per Table 4

the annual payment would be $\$100,000$ divided by 6.1445669 =
\$16,274.54

An amortization schedule would actually look like that shown on the following page:

End of Year	Annual Payment	Principal start of year	Payments Interest 10% x (2)	Principal end of year (2) - (4)	
	(1)	(2)	(3)	(4)	(5)
1	16,274.54	100,000.00	10,000.00	6,274.54	93,725.46
2	16,274.54	93,725.46	9,372.55	6,901.99	86,823.47
3	16,274.54	86,823.47	8,682.35	7,592.19	79,231.27
4	16,274.54	79,231.27	7,923.13	8,351.41	70,879.86
5	16,274.54	70,879.86	7,087.99	9,186.55	61,693.31
6	16,274.54	61,693.31	6,169.33	10,105.21	51,588.10
7	16,274.54	51,588.10	5,158.81	11,115.73	40,472.37
8	16,274.54	40,472.37	4,047.24	12,227.30	28,245.06
9	16,274.54	28,245.06	2,824.51	13,450.03	14,795.03
10	16,274.54	14,795.03	1,479.50	14,795.04	(0.01)

Using the PVIFA factors shown on Table 4, the annual principal and interest payments (debt service) for various terms and various interest rates can be computed.

Q: What is the annual debt service for our proposed project? If a zero coupon bond, what is the lump sum payment due at the end of the term?

STEP 6: WILL THE PLAN WORK?

Compare the projected revenues from Step 3 with the debt service calculated in Step 6:

Q: (for a project generating an annual revenue stream): Do the projected annual revenues equal or exceed the debt service requirements?

Q: (for a project generating a lump sum of cash in the future): Does the projected revenue support the principal and interest payment required?

Q: (for both): If not, what adjustments can be made?

Q: What happens if the market interest rate turns out to be higher than expected? How much higher could the rate be?

Q: What if the revenue stream is slower than expected? How much room for variability is there in our revenue projections?

Q: What if the money needs to be borrowed for a longer term than originally anticipated? How much longer could the term of the bonds be?

STEP 7: MARKETING THE BONDS

Q: How will we sell the bonds?

Q: Through whom?

Q: To whom?

Q: Will the city hire one or more local banks to help us market the issue? Will these banks be willing to buy a portion of the issue on their own account?

Q: What experts do we need to hire?

Q: Is competition desirable? If so, what kind of competition, and at what points?
